

TRANSCRIPT OF RECORD.

UNITED STATES CIRCUIT COURT OF APPEALS
FOR THE NINTH CIRCUIT.

OCTOBER TERM, 1891.

No. 33.

THE JOHNSON COMPANY,

APPELLANT,

vs.

PACIFIC ROLLING MILLS COMPANY,

APPELLEE.

TRANSCRIPT ON APPEAL.

(FROM U. S. CIRCUIT COURT, NORTHERN DISTRICT OF CALIFORNIA.)

FILED, FEBRUARY 18, 1892.

FILED

FEB 24 1892

UNITED STATES CIRCUIT COURT OF APPEALS
FOR THE NINTH CIRCUIT.

THE JOHNSON COMPANY,

APPELLANT,

vs.

PACIFIC ROLLING MILLS COMPANY,

APPELLEE.

TRANSCRIPT ON APPEAL.

(FROM U. S. CIRCUIT COURT, NORTHERN DISTRICT OF CALIFORNIA.)

INDEX.

| | Original. | Print. |
|---|-----------|--------|
| Answer | 9 | 5 |
| Assignment of Errors..... | 90 | 60 |
| Bill of Complaint..... | 1 | 1 |
| Bond on Appeal | 95 | 62 |
| Certificate to Enrollment..... | 20 | 12 |
| Certificate to Deposition | 42 | 25 |
| Certificate to Deposition..... | 68 | 41 |
| Complainant's Exhibit "Brevoort Diagram"..... | 45 | 27 |
| Caption to Deposition | 46 | 28 |
| Complainant's Exhibit A..... | 69 | 42 |
| Complainant's Exhibit B..... | 72 | 49 |
| Complainant's Exhibit C..... | 75 | 51 |
| Complainant's Exhibit E..... | 89 | 60 |
| Decree | 17 | 10 |
| Deposition of Henry L. Brevoort..... | 32 | 19 |
| Deposition (introduction of evidence)..... | 47 | 28 |
| Deposition of Patrick Noble..... | 50 | 30 |
| Enrollment | 16 | 9 |
| Exhibit "Drawing of Complainant's Exhibit E"..... | 44 | 26 |
| Memorandum of costs and disbursements..... | 18 | 10 |
| Opinion | 21 | 12 |
| Order Allowing Appeal..... | 94 | 62 |
| Order Allowing Withdrawal of Original Exhibits..... | 98 | 64 |
| Petition for Order Allowing Appeal..... | 92 | 61 |
| Replication to Answer..... | 15 | 9 |
| Subpœna <i>ad respondendum</i> | 7 | 4 |

1

Bill of Complaint.

Circuit Court of the United States, in and for the Northern
District of California. In Equity.

No. 10393. February Session, 1889.

THE JOHNSON COMPANY

vs.

PACIFIC ROLLING MILLS COMPANY.

} Johnson Patent,
} No. 272,554.

To the Honorable the Judges of the Circuit Court of the United
States, in and for the Northern District of California.

The Johnson Company, a corporation organized by virtue of
and under the laws of the State of Kentucky, and a citizen of
that State, brings this its bill against the Pacific Rolling Mills
Company, a corporation organized by virtue of and under the
laws of the State of California, and a citizen of that State, and
having its principal office in the city and county of San Fran-
cisco, in said State.

And thereupon your orator complains, and says that hereto-
fore, on or about the 17th day of December, 1888, under and by
virtue of the laws of the State of Kentucky, the name of the
said Johnson Company was changed from the "Johnson Steel
Street Rail Company" to "Johnson Company."

And your orator further shows unto your Honors, that here-
tofore, and before the twentieth day of February, A. D., 1883,
Tom L. Johnson, of the city of Indianapolis, State of Indiana,
was the true, original and first inventor of a certain new and
useful improvement in street-railroad rail, not known or used
before, and not in public use or on sale for more than two years
prior to his application for a patent therefor.

2 And your orator further shows unto your Honors, that
the said Tom L. Johnson, so being the inventor of the said
improvement in street-railroad rail, made application to the
proper department of the Government of the United States for
letters patent in accordance with the then existing Acts of Con-
gress, and duly complied in all respects with the conditions and
requirements of the said Acts of Congress, and that on the twen-
tieth day of February, A. D. 1883, Letters Patent Numbered
272,554, in due form of law, were issued and delivered to the said
Tom L. Johnson, for the said invention or discovery, in the name
of the United States of America, and under the seal of the Patent
Office of the United States, and were signed by the Secretary of
the Interior Department of the United States, and counter-
signed by the Commissioner of Patents, whereby there was
granted to the said Tom L. Johnson, his heirs, executors, ad-
ministrators or assigns, for the term of seventeen years from
the twentieth day of February, A. D. 1883, the full and exclu-
sive right of making, using and vending the said invention or

discovery throughout the United States and Territories thereof, as by said letters patent, or a duly authenticated copy thereof, ready in court to be produced, will more fully and at large appear.

And your orator further shows unto your Honors, that the said Tom L. Johnson, on the ninth day of March, A. D. 1883, by an instrument in writing, duly executed and delivered, and bearing date of the last named day, did assign unto your orator, the Johnson Company (formerly the Johnson Steel Street Rail Company) the whole right, title and interest in and to the said letters patent and the invention therein described, the said assignment having been duly recorded in the Patent
3 Office of the United States on the thirtieth day of April, 1883, in Liber R. 29, page 184, as by the said assignment, or a duly authenticated copy thereof, ready in court to be produced, will more fully and at large appear.

And your orator further shows unto your Honors that, but for the infringement herein complained of, and others of like character, it would have been, and would still be, in the undisturbed possession, use and enjoyment, of the exclusive privileges secured by the said letters patent.

And your orator further shows unto your Honors that, as it is informed and believes, the said Pacific Rolling Mills Company, well knowing all the facts set forth, did make, use and sell the said patented improvement, or street-railroad rails, substantially the same in construction and operation as in the said letters patent are shown, described and claimed, the exclusive right to make, use and vend, which said patented street-railroad rails throughout the United States and Territories thereof, is by law vested in your orator.

And so it is, may it please your Honors, that the said respondent, as your orator is informed and believes, without the license of your orator, against its will and in violation of its rights, has made, used and vended, and intends to continue still to make, use and vend, the said patented improvement within the Northern District of California and elsewhere, all of which is in violation of the said letters patent, and to the great gain and profit of the respondent and to the great loss of your orator.

And now, to the end that the respondent may be compelled to account for and pay over the income thus unlawfully derived
4 from the violation of the rights of your orator as above, and be restrained from any further violation of the said rights, your orator prays that your Honors may grant a permanent writ of injunction issuing out of and under the seal of this Honorable Court, directed to the said Pacific Rolling Mills Company.

Strictly enjoining and restraining it, its officers, agents and

employees from any further construction, use or sale in any manner, of said patented improvement in street-railroad rails, or any part or parts thereof, in the violation of the rights of your orator, and that all specimens of the said improvement, or any part or parts thereof, in the possession or use or under the control of the said respondent, the Pacific Rolling Mills Company, may be destroyed or delivered up to your orator for that purpose.

Your orator also prays that your Honors, upon the entering of a decree for an infringement, as above prayed for, may proceed to assess, or cause to be assessed, under your direction, in addition to the profits to be accounted for by the respondent aforesaid, the damages your orator has sustained by reason of such infringement, and that your Honors may increase the actual damages so assessed to a sum equal to three times the amount of such assessment, under the circumstances of the wilful and unjust infringement by the said respondent, as herein set forth.

And your orator prays also for a provisional or preliminary injunction against the said respondent, and for such other relief, together with the costs of the suit, as the equity of the case may require and to your Honors may seem meet.

To the end, therefore, that the respondent may, if it can show reason why your orator should not have the relief herein prayed for, and that the said respondent may make a
5 full disclosure and discovery of all the matters aforesaid, under the oath of its proper officers, and according to the best and utmost of their knowledge, remembrance, information and belief, full, true, direct and perfect answer make to the several allegations of this bill, as though specially interrogated relative thereto.

May it please your Honors to grant unto your orator, not only a writ of injunction conformable to the prayer of this bill, but also a writ of subpœna of the United States of America, issuing out of and under the seal of this Honorable Court, directed to the respondent herein, the said Pacific Rolling Mills Company, commanding it to appeal and answer unto this bill of complaint, and to abide by and perform such order and decree in the premises as to the Court shall seem meet, and be required by the principles of equity and good conscience.

And your orator will ever pray.

GEORGE HARDING,
Solicitor for Complainant.

GEORGE HARDING,
WM. F. BOOTH,
GEORGE J. HARDING,
BUTLER KENNER HARDING,
Of Counsel for Complainant.

6 STATE OF PENNSYLVANIA, }
 County of Cambria, } ss.

Arthur J. Moxham, being duly sworn according to law, doth depose and say: That he is the President of the corporation, the Johnson Company, the complainant named in the foregoing bill of complaint; that he has read the foregoing bill of complaint and knows the contents thereof, and that so far as the statements therein contained are within his own knowledge, they are true, and so far as they are derived from the information of others, he verily believes them to be true.

And he further doth depose and say: That he verily believes the said Tom L. Johnson, in the said bill of complaint named, to be the true, original and first inventor of the street-railroad rails which are described in the said letters patent granted to him, and mentioned in the foregoing bill of complaint.

And he doth further depose and say: That he verily believes the title of complainant as set forth in the said bill is true.

ARTHUR J. MOXHAM.

Subscribed and sworn to before me this 13th day of May, A. D. 1889.

[SEAL.]

A. MONTGOMERY.

*A Notary Public of the State of Pennsylvania,
 in and for the County of Cambria.*

(Endorsed:) Filed June 4th, 1889. L. S. B. Sawyer, Clerk.

7

Subpoena.

UNITED STATES OF AMERICA:

Circuit Court of the United States, Ninth Judicial Circuit,
 Northern District of California. In Equity.

The President of the United States of America, Greeting: To the Pacific Rolling Mills Company, a corporation, organized by virtue of and under the laws of the State of California.

You are hereby commanded, That you be and appear in said Circuit Court of the United States aforesaid, at the court room in San Francisco, on the first day of July, A. D. 1889, to answer a Bill of Complaint exhibited against you in said Court by the Johnson Company, a corporation, organized by virtue of and under the laws of the State of Kentucky, and a citizen of that State, and to do and receive what the said Court shall have considered in that behalf. And this you are not to omit, under the penalty of five thousand dollars.

Witness, the Honorable Melville W. Fuller, Chief Justice of the Supreme Court of the United States, this 4th day of June, in the year of our Lord one thousand eight hundred and eighty-nine, and of our independence the 113th.

[SEAL.]

L. S. B. SAWYER, *Clerk.*

Memorandum Pursuant to Rule 12, Supreme Court U. S.

You are hereby required to enter your appearance in the above suit, on or before the first Monday of July next, at the Clerk's Office of said Court, pursuant to said bill; otherwise the said bill will be taken *pro confesso*.

L. S. B. SAWYER, *Clerk.*

(Endorsed:)

UNITED STATES MARSHAL'S OFFICE,
NORTHERN DISTRICT OF CALIFORNIA.

I hereby certify that I received the within writ on the 4th day of June, 1889, and personally served the same on the 5th day of June, 1889, upon the Pacific Rolling Mills Company, by delivering to and leaving with Wm. Alvord, President of the Pacific Rolling Mills Company, said defendant named therein, personally, at the City and County of San Francisco, in said District, an attested copy thereof.

J. C. FRANKS,

U. S. Marshal,

By JAMES R. DEANE,

Deputy.

San Francisco, June 5th, 1889.

Filed June 5, 1889.

L. S. B. SAWYER, *Clerk.*

Answer.

In the Circuit Court of the United States, Ninth Circuit, in and for the Northern District of California.

THE JOHNSON COMPANY, Complainant,

vs.

PACIFIC ROLLING MILLS COMPANY, Defendant.

The answer of the Pacific Rolling Mills Company, the defendant to the bill of complaint of the complainant, herein filed.

This defendant now, and at all times hereafter, saving and reserving unto itself all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties and other imperfections in the said complainant's said

bill of complaint contained, for answer thereto, or unto so much and such parts thereof as this defendant is advised, is or are material or necessary for it to make answer unto, this defendant, for answering, saith:

That the defendant admits that Letters Patent Numbered 272,554, and bearing date on the 20th day of February, 1883, for an alleged improvement in street railroad rails, were granted by the Government of the United States to Tom L. Johnson, as alleged in the said bill. But the defendant denies that the alleged invention which was covered by said letters patent was either new or useful; on the contrary, the defendant avers that it is informed and believes, and so states to be true, that the said alleged improvement which was covered by said letters patent has never been used by the owners
 10 of said letters patent or by anyone else, for the reason that it was not useful. That the said alleged invention was for rolling said rails in a peculiar form, and that said form was injurious and not beneficial to said rails, and the same was not and never has been of any utility, or of any value whatever.

Defendant denies that the said letters patent are valid, or that they cover or protect any patentable invention, or that they have secured to the said Tom L. Johnson, or his assigns, any exclusive right of making, or using, or vending the said alleged invention or discovery throughout the United States, or any part thereof, or in any place, or for any time.

Defendant avers that it is not informed, save by said bill, as to whether said letters patent were assigned to the Johnson Steel Street Rail Company, as alleged in said bill, or not. It therefore denies that the same were so assigned, and leaves the complainant to make such proof thereof as it may be advised and be able to do.

Defendant further says that it is not advised, save by said bill, whether the name of the Johnson Steel Street Rail Company was changed to "Johnson Company," as alleged in said bill, or not; it therefore denies that the said name was so changed, and leaves the complainant to make proof thereof as it may be able to do.

This defendant denies that, except for the infringement complained of, or any infringements, the complainant would be in the undisturbed use and enjoyment of the exclusive privileges secured by the said letters patent. On the contrary, the defendant avers that it is informed and believes, and so states to be true, that the said letters patent never have been infringed and the possession by the complainant of the alleged
 11 invention has never been disturbed; but notwithstanding these facts, the complainant has neither used or enjoyed the said exclusive privileges, or any of them.

This defendant, the Pacific Rolling Mills Company denies that it has either made or used or sold the said patented improvement or any steel railroad rails, or any railroad rails which were substantially, or at all, the same in construction, or operation, as those shown, described and claimed in the said letters patent. This defendant denies that it has ever made, or has ever used or has been vended, or that it intends, or ever intended, or that it will under any circumstances either make, or use or vend in the future, the said patented improvement, either within the Northern District of California, or in any place whatever, either to the great gain and profit of this defendant, or to the great loss of the complainant or at all.

And this defendant denies that it has infringed upon said letters patent, or that it is now infringing upon said letters patent, or that it will in the future infringe upon said letters patent, and denies that it intends or ever intended to infringe upon said letters patent; and denies that it has obtained, or in any way realized any income, or gains, or profits from any infringement of said letters patent, and denies that the complainant has sustained any loss or any damage or that it will sustain any loss or any damage on account of any infringement of said letters patent by this defendant.

And further answering this defendant avers that it is informed and believes and so states to be true, that the said letters patent are null and void for the reason that the effects stated therein will not be produced by the means therein described for producing those effects. Defendant avers that the pocket formed between the head and foot of the rail described therein will not clasp and hold street ballast and thereby
12 prevent the wearing away of the street alongside of said rail as stated in the said bill of complaint. Neither are the masses of metal in the head, web, flange and foot of the rail described in the patent so nearly equal that all parts will shrink alike and obviate the necessity of cambering in rolling said rails as stated in said patent, and defendant states generally that the changes which are claimed in said patent to be produced by the peculiar forms therein described will not be so produced by those forms.

Defendant avers and will prove on the trial of this case that street railroad rails similar to those described in said letters patent and with pockets formed on each side of the webs thereof, for the reception of the street ballast long prior to the alleged invention of the patentee, Tom L. Johnson, were in public use on California street, between Kearny and Larkin streets, in the City and County of San Francisco in the State of California. That the same were so used by the California Street Railroad Company, which had, and still has, its principal place of

business and residence at the southeast corner of said California and Larkin streets in said City and County of San Francisco.

This defendant further avers and will prove on the trial of this cause that street railroad rails, similar to those described in said letters patent, and with pockets formed on each side of the webs thereof for the reception of street ballast as therein described, were shown and described in the following described letters patents, each one of which was granted by the government of the United States to Henry Root of the City and County of San Francisco, viz:

13 Letters Patent Numbered 262,126, applied for on the third day of September, 1881, and bearing date on the first day of August, 1882, and being granted for a "Construction of Cable Railways."

Also Letters Patent Numbered 247,781, applied for on the sixth day of May, 1881, and bearing date on the fourth day of October, 1881, and being granted for a "Cable Railroad."

And further answering, the said defendant denies that the said complainant is entitled to the relief or any part thereof in the said bill of complaint demanded. And this defendant prays the same advantage of its aforesaid answer, as if it had pleaded or demurred to the said bill of complaint, and this defendant prays leave to be dismissed with its reasonable costs and charges in this behalf most wrongfully sustained.

M. A. WHEATON,
Solicitor for Defendant.

M. A. WHEATON,
Of Counsel for Defendant.

STATE OF CALIFORNIA, }
City and County of San Francisco, } ss.

William Alvord, being duly sworn, does depose and say, that he is the President of the Pacific Rolling Mills Company, the defendant in the foregoing answer, and that by means of his said office he has acquired and possesses particular knowledge of the matters stated in said answer; that he has read the foregoing answer and knows the contents thereof, and that the same is true of his own knowledge except as to the matters therein stated on information and belief,
14 and as to those matters he verily believes it to be true.

WILLIAM ALVORD.

Subscribed and sworn to before me, this 5th day of August, A. D. 1889.

[SEAL.]

JAMES MASON,
Notary Public.

(Endorsed:) Service of the within answer and receipt of a copy thereof admitted this 5th day of August, 1889. Wm. F. Booth, Solicitor for Plaintiff. Filed 5th day of August, A. D. 1889. L. S. B. Sawyer, Clerk.

15 *Replication to Answer.*

In the Circuit Court of the United States, Ninth Judicial Circuit, in and for the Northern District of California.

| | |
|--|------------------------------|
| THE JOHNSON COMPANY, Complainant, |) In Equity. } No. 10393. |
| vs. | |
| PACIFIC ROLLING MILLS COMPANY, Respondent. |) Replication. |

This repliant, saving and reserving unto itself all and all manner of advantage of exception to the manifold insufficiencies of the said answer, for replication thereunto saith, that it will aver and prove its said bill to be true, certain, and sufficient in the law to be answered unto; and that the said answer of the said defendant is uncertain, untrue, and insufficient to be replied unto by this repliant; without this, that any other matter or thing whatsoever in the said answer contained, material or effectual in the law to be replied unto, confessed or avoided, traversed or denied, is true; all which matters and things this repliant is, and will be, ready to aver and prove, as this Honorable Court shall direct; and humbly prays, as in and by its said bill it hath already prayed.

WM. F. BOOTH,
Of Counsel for Complainant.

Service of the above replication admitted this 2nd day of September, 1889.

M. A. WHEATON,
Defendant's Solicitor.

(Endorsed:) Filed Sept. 2nd, 1889. L. S. B. Sawyer, Clerk.
By F. D. Monckton, Deputy Clerk.

16 *Enrollment.*

In the Circuit Court of the United States, Ninth Circuit, Northern District of California.

| | |
|--|--------------|
| THE JOHNSON Co., Complainant, | } No. 10393. |
| vs. | |
| PACIFIC ROLLING MILLS Co., Respondent. | |

The complainant filed its bill of complaint on the 4th day of June, 1889, which is hereto annexed.

A subpoena to appear and answer in said cause was thereupon issued, returnable on the 1st day of July, A. D. 1889, which is hereto annexed.

The respondent appeared herein on the 1st day of July, 1889, by M. A. Wheaton, Esqr., its solicitor.

On the 5th day of August, 1889, an answer was filed herein, which is hereto annexed.

On the 2nd day of September, 1889, a replication was filed herein and is hereto annexed.

Thereafter a final decree was filed and entered herein in the words and figures following, to wit:

17

Decree.

At a stated term, to wit: the July term, A. D. 1891, of the Circuit Court of the United States of America, of the Ninth Judicial Circuit, in and for the Northern District of California, held at the court room in the City and County of San Francisco, on Monday the 27th day of July, in the year of our Lord one thousand eight hundred and ninety-one.

Present: The Honorable Thomas P. Hawley, U. S. District Judge, District of Nevada.

THE JOHNSON COMPANY,
vs.
 PACIFIC ROLLING MILLS COMPANY. } No. 10393.

This cause came on to be heard at the July, 1890, term of said Court, and was argued by counsel, and submitted to the Court for consideration and decision.

Thereupon, upon consideration thereof, it is ordered, adjudged and decreed that the complainant's bill of complaint herein, be and the same hereby is dismissed at complainant's cost, taxed at \$89.75.

(Signed) HAWLEY,
Judge.

(Endorsed:) Filed and entered July 27, 1891. L. S. B. Sawyer, Clerk.

18

Memorandum of Costs and Disbursements.

United States of America. Circuit Court of the United States,
 Ninth Circuit, Northern District of California.

THE JOHNSON COMPANY, Complainant, } Memorandum
vs. } of Costs and
 PACIFIC ROLLING MILLS COMPANY, Defendant. } Disbursements

Disbursements:

Copy of the bill of complaint.....\$ 2 00
 Clerk's fees..... 10 00

| | |
|--|--------|
| Deposition fees for 2 witnesses, Henry L. Brevoort and Patrick Noble, at \$2.50 each..... | \$5 00 |
| Examiner's fees..... | 52 00 |
| Docket fee..... | 20 00 |
| Affidavit to answer..... | 50 |
| Affidavit to cost bill..... | 25 |

Taxed at.....Total sum..\$89.75

L. S. B. SAWYER,
Clerk.

UNITED STATES OF AMERICA,
Northern District of California, } ss.
City and County of San Francisco, }

F. J. Kierce being duly sworn, deposes and says: That he is one of the solicitors for the defendant in the above entitled cause, and as such is better informed, relative to the above costs and disbursements, than the said defendant.

That the items in the above memorandum contained are correct, to the best of this deponent's knowledge and belief, and that the said disbursements have been necessarily incurred in the said cause.

(Signed) F. J. KIERCE.

Subscribed and sworn to before me, this 30th day of July, A. D. 1891.

F. D. MONCKTON,
Commissioner of U. S. Circuit Court,
Northern District of California.

To Messrs. George Harding, G. J. Harding and Wm. F. Booth,
Solicitors for Complainant:

You will please take notice that on Saturday, the first day of August, A. D. 1891, at the hour of 10:30 o'clock, A. M., we will apply to the Clerk of said Court to have the within memorandum of costs and disbursements taxed pursuant to the rule of said Court, in such case made and provided.

WHEATON, KALLOCH & KIERCE,
Solicitors for Defendant.

(Endorsed:) Service of within memorandum of costs and disbursements, and receipt of a copy thereof acknowledged, this 30th day of July, A. D. 1891. Wm. F. Booth, Solicitor for Complainant. Filed this 31st day of July, A. D. 1891. L. S. B. Sawyer, Clerk.

20

Certificate to Enrollment.

Whereupon, said pleadings, subpoena and final decree and a memorandum of taxed costs are hereto annexed, said final decree being duly signed, filed and enrolled, pursuant to the practice of said Circuit Court.

Attest, etc.

[SEAL.]

L. S. B. SAWYER, *Clerk.*

(Endorsed:) Enrolled papers. Filed July 27, 1891. L. S. B. Sawyer, Clerk.

21

Opinion.

In the Circuit Court of the United States, Ninth Judicial Circuit, Northern District of California.

JOHNSON COMPANY, Complainant,

vs.

PACIFIC ROLLING MILLS COMPANY, Respondent, } No. 10393.

AND

JOHNSON COMPANY, Complainant,

vs.

SUTTER STREET RAILWAY COMPANY, Respondent. } No. 10394.

July 27, 1891.

WM. F. BOOTH and HARDING & HARDING, for complainants,
both cases: WHEATON, KALLOCH & KIERCE, and NAPHTALY,
FREIDENRICH & ACKERMAN, for respondents.

HAWLEY, J.

These cases were tried together, and involved precisely the same questions.

They are actions in equity to recover for an alleged infringement of Letters Patent Number 272,554, bearing date February 20, 1883, granted to Tom L. Johnson, for a street railroad, and by him assigned to the corporation complainant in both cases. The alleged infringement is for the manufacture and sale of certain rails by the Pacific Rolling Mills Company in one case, and in the other case, for the use of said rails by the Sutter Street Railway Company.

The specifications of the patent are quite lengthy. The following quotations therefrom have more or less bearing upon the points involved:

22

“The object of my said invention is to improve the form of that class of railroad rail, used principally by street railroads, which combine the principal features of the tramrail, ordinarily used for such purposes, and those of the T-rail used on steam railroads.

“ I am aware that rails embodying the general features above mentioned are old, and I therefore disclaim the same, and confine myself to the form hereinafter particularly described and claimed as new.

“ Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a portion of a rail formed in accordance with my invention, and Fig. 2, a transverse vertical section of the same. Fig. 3 shows a section of a street railway bed and ordinary rails as commonly laid.

“ In said Figs. 1 and 2 the letter A indicates the flanged portion of the rail; B, the head of the rail; C, an offset under the head of the rail, abutting the web E on the side of said web, opposite to that continued out in the flange A. The web E extends from the foot D to the angles respectively formed on opposite sides by its union with the offset C and flange A, thus securing a uniform depth of web proper for the fish-plates to clamp.

“ In Fig. 3 the letter G indicates an ordinary cross-tie, the letters HH, stringers, such as are ordinarily used upon street railways, and KK an ordinary form of street rail laid thereon. The letters *xx* indicate the edges of the adjacent and underlying roadway.

“ A peculiar and important feature of this rail is the offset C, which, while serving the purpose of a close fit for the splice-bar or fish-plate, as above mentioned, also serves another equally or more important purpose in the general conformation of and peculiar disposition of metal in the rail.”

“ The splice-bar offset C, is a large factor, in the proper retaining of this ballast, for it is large enough with its square corner, in connection with the curved or arched shape of the lower part of the head and T shaped foot to allow the surrounding and superincumbent traffic to press the ballast—gravel and stones of the streets—into and against the rail, instead of (as shown in Fig. 3—cutting away the surface of the street from the rails.”

There are six claims to the patent; but only one—the fifth—that it is contended is infringed. This claim reads as follows: “ 5. In the combined tram and T rail described, the web E, located relatively to the flange A, and head B, offset at C, as described, whereby a maximum capacity of outside pocket is secured with a minimum quantity of metal consistent with the proper stability of the rail, substantially as set forth.”

The defenses to this patent, set up by defendants, are (1) non-infringement (2) non-patentability.

1. In construing the patent it is the duty of the Court to confine its deliberations to the fifth claim as that is the only one

that is claimed to be infringed. It is also proper to restrict the interpretation of the patent to the particular class to which it belongs, viz: to patents for mere form, as distinguished from patents involving mechanical action or patents for some particular kind of process. This case is one “where in view
24 of the state of the art, the invention must be restricted to the form shown and described by the patentee.”

Duff vs. Sterling Pump Co., 114 U. S., 639.

The fifth claim required the web E, to be located relatively to the flange A, and head B, as described. This relative location, when compared with the drawings and specifications places the head B, to the left hand side of the vertical line of the web E, and the whole of the upper face of the flange A, over the whole width of the web. The form of the defendant's rail, in this respect, locates the head over the web, and the flange is to the right of the vertical line of the web. The difference in the relative location of the different parts of the patented rail and of the defendant's rail is shown in the cross-examination of complainant's expert witness, Breevort, who, in answer to questions, testified as follows:

“Q. 8. In the patented rail is there any part of the head that is over the web in a vertical line?

“A. No.

“Q. 9. In the defendant's rail is the head in vertical line over the web or not?

“A. The head is over the web.

“Q. 10. Then in this respect referred to in the last two questions is the relative location of the head and web, the same in the defendant's rail as it is in the patented rail?

“A. It is not.

“Q. 11. In the patented rail is the flange in a vertical line over the web.

“A. Yes.

“Q. 12. In the defendant's rail is the flange in a vertical line over the web?

“A. No.

25 “Q. 13. Then in this respect is the relative location between the web and the flange the same in the defendant's rail as it is in the patented rail?

“A. No.”

If, therefore, the patent is to be limited to the form that results from having “the web E located relatively to the flange A and head B, as described,” it would seem to follow that there is no infringement by the defendant's rail.

The relative location between the web, the head and the flange is made—by the fifth claim—a material part of the form of the patented rail, as distinguished from the prior state of

the art; and in connection with the offset C, constitutes the "Improvement in street railroad rails" for which the patent was obtained.

When a claim is so explicit the courts cannot alter or enlarge it. If the patentee has not claimed the whole of his invention, and the omission was the result of inadvertence, he should have sought to correct the error by a surrender of his patent and an application for a re-issue. He cannot expect the courts to wade through the history of the art and spell out what he might have claimed, but has not. "Since the act of 1836, the patent laws require that an applicant for a patent shall, not only by a specification in writing, fully explain his invention, but that he shall particularly specify and point out the part, improvement or combination which he claims as his own invention or discovery. This provision was inserted in the law for the purpose of relieving the courts from the duty of ascertaining the exact invention of the patentee by inference and conjecture, derived from a laborious examination of previous inventions, and a comparison thereof with that claimed by him. This duty is now cast upon the Patent Office. There his claim is, or is supposed to be, examined, scrutinized, limited and made to conform to what he is entitled to. If the office refused to allow him all he asks, he has an appeal. But the courts have no right to enlarge a patent beyond the scope of its claim as allowed by the Patent Office, or the appellate tribunal to which contested applications are referred. When the terms of a claim in a patent are clear and distinct, as they always should be, the patentee, in a suit brought upon the patent, is bound by it. *Merrill vs. Yeomans*, (*ante*, 235.) He can claim nothing beyond it. But the defendant may at all times, under proper pleadings, resort to prior use and the general history of the art to assail the validity of a patent or to restrain its construction. The door is then opened to the plaintiff to resort to the same kind of evidence in rebuttal; but he never can go beyond his claim. As patents are produced *ex parte*, the public is not bound by them, but the patentees are. And the latter cannot show that their invention is broader than the terms of their claim; or, if broader, they must be held to have surrendered the surplus to the public."

Keystone Bridge Co vs. Phoenix Ins. Co., 95 U. S. 278.

See also *Railroad Co. vs. Mellon*, 104 U. S., 118.

Sargent vs. Hall Safe and Lock Co., 114 U. S., 86.

Western Electric Co. vs. Ansonia Co., 114 U. S., 452.

Clark vs. Beecher M. Co., 115 U. S., 86.

Yale Lock Co. vs. Greenleaf, 117 U. S., 588.

2. The contention of defendants—with reference to the defense of non-patentability—is, “that the complainant’s patent is absolutely void, for the reason that it is only for one especial form of the well known girder rails and that such especial form did not develop any new or unknown mode of operation.”

27 It is undoubtedly true, as has often been said, that no more difficult task can be imposed upon the Court in patent cases, than that of determining what constitutes invention, and of drawing the line of distinction between the work of the inventor and the constructor. It is very often difficult to determine what degree of improvement takes a case out of the mere exercise of mechanical skill and judgment and places it within the domain of invention or discovery. Certain well defined general principles have, however, from time to time, been announced in plain, clear and distinct terms, which are calculated to materially aid the courts in deciding cases of like character with the cases under consideration.

The Supreme Court “has repeatedly held that, under the Constitution and the Acts of Congress, a person, to be entitled to a patent must have invented or discovered some new and useful art, machine manufacture, or composition of matter, or some new and useful improvement thereof, and that ‘it is not enough that a thing shall be new, in the sense that in the shape or form in which it is produced it shall not have been before known, and that it shall be useful, but it must, under the Constitution and the statute, amount to an invention or discovery.’” *Hill vs. Wooster*, 132 U. S., 700. “The cases on this subject are collected in *Thompson vs. Boissilier*, 114 U. S., 1, 11, 12, to them may be added *Stephenson vs. Brooklyn Railroad*, 114 U. S., 149; *Yale Lock Co. vs. Greenleaf*, 117 U. S., 544; *Gardner vs. Herz*, 118 U. S., 180; *Pomaco Holder Co. vs. Ferguson*, 119 U. S., 335; *Hendy vs. Miners Iron Works*, 127 U. S., 370, 375; *Holland vs. Shipley*, 127 U. S., 396; *Pattee Plow Co. vs. Kingman*, 129 U. S., 294; *Brown vs. District of Columbia*, 130 U. S., 87; *Day vs. Fairhaven and Westville Railway Co.*, 132 U. S., 98; *Watson vs. Cincinnati, Indianapolis, etc., Railway Co.*, 132 U. S., 161; *Marchand vs. Enken*, 132 U. S., 195; *Royer vs. Roth*, 132 U. S., 201.

In the light of these principles the facts in these cases as shown by the evidence, must be applied and considered in order to enable the Court to determine upon which side of the border line the patent falls.

The prior art is represented by the ordinary T-rail and the California street rail. Neither of these rails possessed all the advantages of the patented rail. In fact the object of the patentee in changing the form of the rail—as stated in his speci-

fications heretofore quoted—was to secure in one form all the advantages possessed by the rails then in public use. The general features of his invention were admitted to be old and he therefore disclaimed the same and confined himself “to the form hereinafter particularly described and claimed as new.”

The advantages testified to by complainant’s witness, Breevort, that the patent rail “is adapted to be placed on a sleeper below the street level so that the paving can be brought up to it—it has a head for the bearing of the wheel, a flange which permits ordinary street traffic, a vertical web and foot,” were all possessed by the California street rail.

Speaking of the California street rail, the witness said: “The said rail has not got the same disposition of metal or the same combination of parts as claimed in the fifth claim of the patent. It is true that the sample of rail shown me has a head, a flange, a web, and a foot, but these parts are differently shaped and are differently located in regard one to the other, when compared with either the defendant’s or the complainant’s rail. The rail shown me has an offset under the head, and if such a rail, was used with fish-plates, one set of fish-plates would have to be used for the side of the rail on which the head was turned, and another and narrower set of fish-plates would have to be used for that side of the rail on which the flange is turned. Both in the defendant’s and complainant’s rail, the offset under the head enables fish-plates of like size to be used on both sides of the rail, besides furnishing strength to the head. In the sample of rail shown me, strength for the head has been obtained by a different disposition of metal, and the offset has been dispensed with.”

The flanged rails are shown by the testimony of both parties to be advantageous, by reason of their adaptability for street paving. The California street rail is a flanged rail and in this respect it was an improvement upon the T-rail. This advantage is secured in the form of the patented rail. The advantage of even fish-plating in the patented rail was obtained by the use of the offset C, and this is the most prominent feature upon which the invention of the patented rail is claimed. The form of the California street rail did not admit of even fish-plating. The old T-rail, however, had that advantage. Its form was such as to allow even fish-plating. The rails were even on both sides and the plates could be transferred from one side to the other and only one size of plates were required to be purchased. It will thus be seen as stated by complainant’s witness, Breevort, that “the patent of Johnson described an improved form of rail, intended principally for use in streets for car service and street railway service. The said rail described in the patent is designed to present many of the advantages of the T-rail

30 and possessing also some of the advantages of the ordinary tram-rail." The change in the form of the rail so as to secure these advantages, as shown by the evidence, was, in my opinion, the result of ordinary mechanical skill, which did not require the exercise of the inventive faculty of the mind.

In *Busell Trimmer Co. vs. Stevens*, the Supreme Court, in passing under a similar question involved in that case, said:

"Effort was made to show by other witnesses that the features in the Orcutt patent, specified in the statement of counsel above quoted, are all patentable novelties, especially the combination of them into one devise. We repeat, that in view of the previous state of the art we think otherwise. The evidence, taken as a whole, shows that all of those claimed elements are to be found in various prior patents—some in one patent, and some in another, but all performing like functions in well-known inventions having the same object as the Orcutt patent, and that there is no substantial difference between the Brown metal cutter and Orcutt's cutter, except in the configuration of their molded surface. That difference, to our minds, is not a patentable difference, even though the one cutter was used in the metal art, and the other in the leather art. A combination of old elements, such as are found in the patented device in suit, does not constitute a patentable invention." 137 U. S., 433.

The changes made by Johnson in the form of the rail were changes of degree only, and did not involve any new principle. It was a combination of old elements into a new form without producing any new mode of operation. It is, as was said by the Supreme Court in *Burt vs. Evory*, 133 U. S., 358, "a mere aggregation of old parts with such changes of form or
31 arrangement as a skillful mechanic could readily devise—the natural outgrowth of the development of mechanical skill as distinguished from invention. The changes made—in the construction—were changes of degree only and did not involve any new principle—performed no new function."

In *Florsheim vs. Shilling*, 137 U. S., 77, the Supreme Court adopted the rule announced in *Pickering vs. McCullough*, 104 U. S., 318. "In a patentable combination of old elements all the constituents must so enter into it as that each qualifies every other. It must form either a new machine of a distinct character or function, or produce a result due to the joint and co-operating action of all the elements, and which is not the mere adding together of separate contributions. The combination of old devices into new articles, without producing any new mode of operation, is not invention." *Burt vs. Evory*, *supra*. See also *Hailes vs. Van Wormer*, 20 Wall., 353; *Recken-*

dorfer vs. Faber, 92 U. S., 347; *Tack Co. vs. Two Rivers Manufacturing Company*, 109 U. S., 117; *Bussey vs. Excelsior Manufacturing Company*, 110 U. S., 131; *Phillips vs. Detroit*, 111 U. S., 604; *Stephenson vs. Brooklyn Railroad Co.*, 114 U. S. 149; *Beecher M'f'g Co. vs. Atwater M'f'g Co.*, 114 U. S., 523; *Thatcher Heating Co. vs. Burtis*, 121 U. S., 286; *Hendy vs. Miners Iron Works*, 127 U. S., 370. See also *Campbell vs. Bailey*, 45 Fed. R., 564, and authorities there cited.

The contention of defendants is, in my opinion, sustained, and complainant's bills must be dismissed. It is so ordered.

(Endorsed:) Opinion read in open Court July 27, 1891. L. S. B. Sawyer, Clerk.

32 *Deposition of Henry L. Brevoort.*

U. S. Circuit Court, Northern District of California.

JOHNSON COMPANY
vs.
 SUTTER STREET RAILWAY COMPANY. } In Equity.
 No. 10,394.

JOHNSON COMPANY
vs.
 PACIFIC ROLLING MILLS COMPANY. } In Equity.
 No. 10,393.

Testimony taken on behalf of complainant in above entitled causes before R. G. Monroe, Notary Public, special examiner, at his office, No. 140 Nassau St., New York, N. Y., April 29th, 1890.

Present: Geo. J. Harding, Esq., for complainant; M. A. Wheaton, Esq., for defendant.

It is stipulated that R. G. Monroe act as special examiner in these causes, and that the testimony taken before him shall have the same force and effect as if taken before a standing examiner of this Court.

It is further stipulated that the proof taken shall be read as taken separately in each suit.

HENRY L. BREEVOORT, a witness called on behalf of the complainant, having been first duly sworn, testified as follows:

Q. 1. What is your name, age, residence and occupation?

A. Henry L. Brevoort; 41 years; Brooklyn, N. Y.; Engineer.

Q. 2. What qualifications have you for testifying in this case?

33 A. As a boy I learned the trade of a machinist and for a number of years owned and operated a machine shop. For the last fifteen or sixteen years I have been almost exclusively

engaged in examining patents and patented devices and I have, during this period, been called upon to testify in suits relating to patents, having testified in many hundred of such cases.

Q. 3. Have you examined and do you understand the letters patent in suit?

A. I have read it and I think I understand what is described and claimed in said patent.

Q. 4. Have you examined certified copy of Complainant's Ex. E, and do you understand the same? I now show you a section of a rail. Please state how said section compares with the drawing, Exhibit E.

A. I have examined the Ex. E and I understand the rail there shown in section. I have compared the section of rail shown me with the said exhibit and I find that the said section is practically the same as the drawing, Exhibit E.

Said section is here offered in evidence and marked "Complainant's Exhibit Section Defendant's Rail."

Q. 5. Please compare Comp'ts. Ex. E and the rail section last offered with the rail set out and described in complainant's patent and specifically pointed out in the fifth claim thereof and state wherein you find similarity or identity of structure between said exhibit and rail section and the patent in suit?

A. I have made the comparison called for in the question between the patent in suit, No. 272,554, dated Feb. 20th, 1883, and granted to Tom L. Johnson, and the rail marked Ex. E, and also the section of the actual rail, and I think that
34 the said defendant's rail contains the invention of the fifth claim of the patent in suit. I will give my reasons for this opinion.

(Defendant objects to the answer so far given and also the answer the witness proposes to give in so far that it contains the opinion of the witness as to what invention is or is not described in or covered by said claim five, upon the ground that the same is giving a construction of the claim by the witness, and it is therefore incompetent testimony.

Defendant here also puts in an objection to all opinions of the witness which may be hereafter given as to what invention or inventions are or are not covered by any of the respective claims of the patent, upon the ground that the same is incompetent testimony, for the reason that they give a construction to the patent and its claims, and thus trench upon the exclusive province of the Court. This objection is put in here to apply to all such testimony for the purpose of saving a constant repetition of the objection).

The patent of Johnson describes an improved form of rail intended principally for use in streets for car service or street rail-

way service. The rail described in the patent is designed to present many of the advantages of the T-rail and possessing also some of the advantages of an ordinary tram-rail. By making the rail deep like the T-rail ordinarily used on steam roads; the support of the rail can be placed below the street level and the paving can be brought close up on either side to the rail, and above the supporting sleeper.

The rail is also made stiff and ridged by its depth of flange. The rail of the patent is one having a head (lettered B in the patent) which is to be placed in laying the rail slightly
35 above or level with the surrounding street surface.

There is a flange A which may be just below the street level and which prevents the wheels of ordinary vehicles to find a track between the heads of the rails composing the road. The head and flange are carried by the web marked E in the patent, located below the junction of the head and flange. This web terminates at its base in a foot, D, which is adapted to run upon and be spiked to this sleeper, upon which the rail is laid. Under the head there is an offset marked in the patent, C, which serves to strengthen the rail and which evens up the two sides of the rail so that the fish plates used with the said rail may be alike for both of its sides. The patent says as follows: "The web E extends from the foot D to the angles respectively
"formed on opposite sides by its union with the offset C and
"flange A, thus securing a uniform depth of web, proper for
"the fish-plates to clamp." By disposing the metal in this way in the rail the maximum strength is obtained with the least amount of metal and the metal is so disposed as to produce the most efficient rail that can be produced with the metal used. The patent points out that one of the advantages of the rail section there shown is that substantially equal masses of metal are contained in the head, the flange and foot, and that this disposition of the metal possesses advantages in rolling. The fifth claim refers to a combined tram and T-rail, having a web located relatively to the flange, A, and head, B, as described, and having an offset, C, as shown in the patent located under the head. The claim also says that this structure provides a maximum capacity of outside pocket for, I presume, the ballast. The rail is to be provided, as I understand
36 the claim, with the base, D, as shown, so that it is adapted as is any T-rail for fish-plating; the foot, D, furnishing a rest for the fish-plates at the lower edge.

There is much in the patent relating to the relationship of the rail and the ballast, which may or may not be true. I am unable to state the facts in this regard as they could only be ascertained by a series of experiments, which I have not made. Turning now to the defendant's rail, I find that this is a com-

bined tram and T-rail of the same character as the rail of the patent, and intended for the same uses. The rail has a head which is substantially the head of the patent, and it has the flange and the offset under the head, as in the patent, with the web and foot all substantially as shown in the patent. The only difference to which attention need be called between the defendant's and complainant's rail lies in the fact that in the defendant's rail the head emerges into the flange at a point nearer the center of the rail, thus bringing the web under the head of the rail, and not directly below the point where the head merges into the flange. I have made two diagrams, one of the defendant's rail and the other of the rail of the patent, both being in cross-section, and I have divided this diagram up into five divisions each way, using the extreme dimensions of the rail in both directions as a basis. This leaves two diagrams divided in small parallelograms, each containing a portion of the rail section. Now, by comparing the respective squares which occupy a like portion in the diagrams, it will be seen at a glance that the rails are of almost identically the same section, with the one exception that I pointed out, to wit, that in the defendant's rail the head has been carried slightly to the right and the web has been carried slightly to the left.

37 The defendant's rail possesses all the advantages of the rail of the patent. It is adapted to be placed on a sleeper below the street level so that the paving can be brought up to it; it has a head for the bearing of the wheel, a flange which permits ordinary street traffic, a vertical web and foot, and an offset under the head for giving strength to the rail and which offset makes the two sides of the rail alike, so that fish-plates of the same size can be used. The defendant's rail also has the same maximum capacity of outside pocket as has the defendant's rail, and though the force of the particular advantage does not impress me, the defendant's rail, nevertheless, contains it. I do not think that the moving of the head and web, relatively, to the extent shown, makes any substantial or material difference. In my opinion the defendant's rail, as illustrated by the exhibits before me, is a rail containing the construction of parts specified in the fifth claim of the patent in suit. Complainant's counsel offers in evidence the diagram and requests the examiner to mark the same "Comp'ts Ex. Brevoort Diagram."

Q. 6. Please look at the section of rail which I now show you and state whether the said rail structure is similar or dissimilar to the structure set out in the patent in suit and the rail Comp'ts Ex. E, and Comp'ts Ex. "Section Defendant's Rail."

A. I have examined the rail shown me. The said rail has not got the same disposition of metal or the same combination

of parts claimed in the fifth claim of the patent. It is true that the sample of rail shown me has a head, a flange, a web and a foot, but these parts are differently shaped and are differently located in regard one to the—when compared with either the defendant's or complainant's rail. The rail shown me has no offset under the head, and if such a rail was used with fish-plates, one set of fish-plates would have to be used for the side of the rail on which the head was turned and another narrower set of fish-plates would have to be used for that side of the rail on which the flange is turned. Both in the defendant's and complainant's rail, the offset under the head enables fish-plates of like size to be used on both sides of the rail besides furnishing strength to the head. In the sample of rail shown me, strength for the head has been obtained by a different disposition of the metal and the offset has been dispensed with; I think the sample shown me is clearly a different rail from the one described in the patent and specifically claimed in the fifth claim thereof, and likewise I think it is substantially a different rail from complainant's or defendant's rail here before me.

The section of rail referred to in witness last answer is offered in evidence and same is marked "Section California Street Rail."

It is admitted by counsel on both sides that the exhibit just marked "Section California Street Rail," correctly illustrates the rail set out in the answer under California St. Railroad prior use and prior patents Nos. 262,126 and 247,781.

Cross-examination by MR. WHEATON.

X.-Q. 7. Why in your direct examination have you quoted claim five of the patent and have not quoted any of the other claims?

A. My attention was only called by the question to the fifth claim and consequently I did not consider any other.

X.-Q. 8. In the patented rail is there any part of the head that is over the web in vertical line?

A. No.

X.-Q. 9. In the defendant's rail is the head in vertical line over the web or not?

A. The head is over the web.

X.-Q. 10. Then in the respect referred to in the last two questions, is the relative location of the head and web the same in the defendant's rail as it is in the patented rail?

A. It is not.

X.-Q. 11. In the patented rail is the flange in a vertical line over the web?

A. Yes.

X.-Q. 12. In the defendant's rail is the flange in a vertical line over the web?

A. No.

X.-Q. 13. Then in this respect, is the relative location between the web and the flange the same in defendant's rail as it is in the patented rail?

A. No.

X.-Q. 14. Please describe what a tram-rail is as commonly understood?

A. It is a flat rail having a head and flange and no web, and is adapted for being laid on longitudinal stringers; the bottom of the rail is flat.

X.-Q. 15. How long to your knowledge has the ordinary T-rail been in use in combination with fish-plates on ordinary steam railroads?

40 A. I don't know the date exactly. It must be about twenty years ago, perhaps more.

X.-Q. 16. How does the form of the web and the projections from it on both sides, both at its upper and lower ends of the rail of the patent in suit, compare with the form of the web and the projections from it both at its upper and lower ends, commonly used in the old ordinary T-rails referred to?

A. The old ordinary T-rails had webs that merged into the head and foot by curves of small radii just as in the patent in suit but in such rails the head was symmetrical on both sides and there was no offset like C, and no flange like A.

X.-Q. 17. Is there any difference between the form of the fish-plates mentioned in the patent and the form of the web to which they are to be attached shown in the patent, or in the method of attaching such fish-plates to such web from the form of the fish-plates and webs and methods of attaching them together which were in common use on ordinary steam railroads. If so, please describe in what such difference or differences consist?

A. There are no differences.

X.-Q. 18. Are there any differences between the head and flange of the rail shown in the patent and the head and flange of some of the tram-rails which were in public use long prior to 1880. I refer to the top surface of the patented rail only?

A. I have no special rail in mind, but I dare say that old tram-rails could be found whose top surface would be the same.

X.-Q. 19. In view of the fact that the old California street rail had a web and foot attached to a head and flange which, as to its upper service might have corresponded with some of the forms of the upper surfaces of ancient tram-rails, and in
41 view of the further fact that the use of rails in which the webs were alike upon both sides and with which

fish-plates precisely alike were used upon both sides were common on steam railroads. Will you please describe if you can, how there could possibly be any invention in attaching such webs and fish-plates to any other tram-rail having a somewhat different shape and form to its upper surface?

A. I do not think that the invention consisted in the application of fish-plates to the rail of the patent. The invention consisted of the general conformation of the rail having the head, the flange and offset, the whole forming with its web and and foot a very desirable form of rail, and one of the advantages of the form is that it admits of even fish-plating on both sides, while a strong and rigid rail is got with a minimum of metal or rather with the metal located in the best possible way.

X.-Q. 20. Will you please attach a section of fish-plates to the exhibit marked Complainant's Exhibit Section of Defendant's Rail so as to show the connection of the fish-plates and rail?

A. I have made the attachment to said exhibit.

HENRY L. BREVOORT.

Sworn and subscribed to before me this 29th day of April, 1890.

[SEAL.]

ROBERT GRIER MONROE,
Notary Public,
New York Co.

Certificate to Deposition.

42 STATE OF NEW YORK, }
City and County of New York, } ss.

I, Robert Grier Monroe, a Notary Public in and for the City and County of New York, State of New York, do hereby certify that the foregoing deposition of Henry L. Brevoort was taken before me on behalf of the Johnson Company, the complainant in two civil causes in the Circuit Court of the United States for the Northern District of California, on the equity side of said Court, wherein the Johnson Company is complainant and the Sutter Street Railway Company and the Pacific Rolling Mills Company respectively defendants, in actions for infringement of a patent; that said deposition was taken in pursuance of notice; that the reason for taking said deposition was and is, and the fact was and is, that said deponent lives at a greater distance from San Francisco, the place of trial of the said actions, than one hundred miles, to wit: In the City of New York, State of New York; that said deposition was taken at my office, No. 140 Nassau street, in the City and County of New York, on the 29th day of April, 1890; that said deponent was by me duly cautioned and sworn to testify the whole truth before the

commencement of his testimony; that the testimony of said witness was reduced to writing by me and by no other person, and that said witness subscribed his testimony after it had been so reduced to writing; that the complainant was represented by George J. Harding, Esq., of counsel, and the respondents by M. A. Wheaton, Esq., of counsel; that the entire testimony was commenced and concluded on the same day, to wit:

43 On the 29th day of April, 1890.

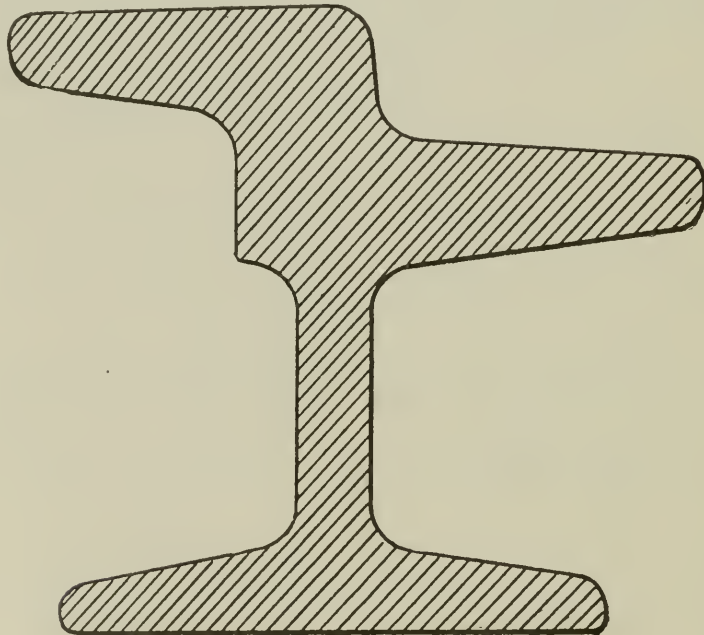
In testimony whereof, I have hereunto set my hand and affixed my seal of office at the city of New York, County and State of New York, this 5th day of May, 1890.

[SEAL.]

ROBERT GRIER MONROE,
Notary Public N. Y. Co.

(Endorsed:) Depositions opened by consent, Aug. 27, 1890. G. J. Harding for Complainant, M. A. Wheaton, for Respondents. Opened by agreement and re-filed August 27, 1890. L. S. B. Sawyer, Clerk, by F. D. Monckton, Deputy Clerk.

44 *Exhibit "Drawing of Complainant's Exhibit E."*



I certify that the above is a true and correct tracing of a drawing introduced in evidence and marked "Complainant's Exhibit E," in the case of the *Johnson Company vs. Sutter Street Railway Company*, in the U. S. Circuit Court for the Northern District of California.

(Signed)

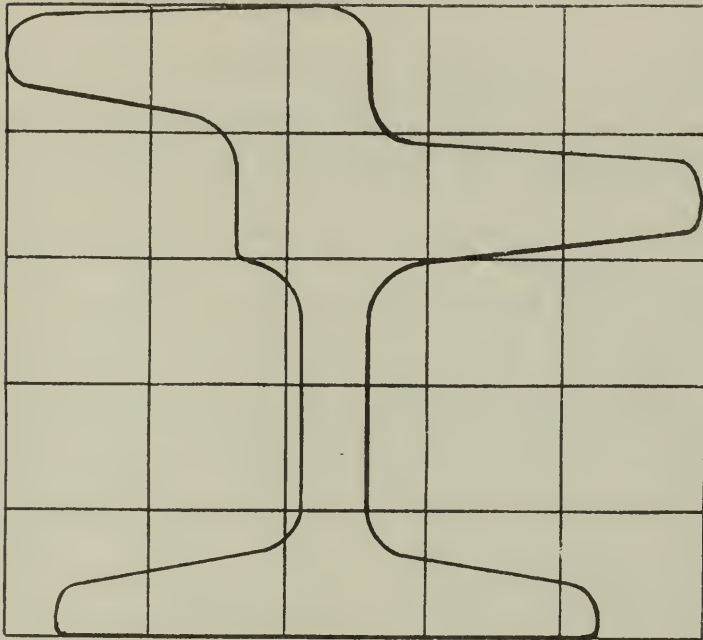
S. C. HOUGHTON,
Examiner in Chancery of said Court.

(Endorsed:) Opened by agreement and re-filed August 27, 1890. L. S. B. Sawyer, Clerk. By F. D. Monckton, Deputy Clerk.

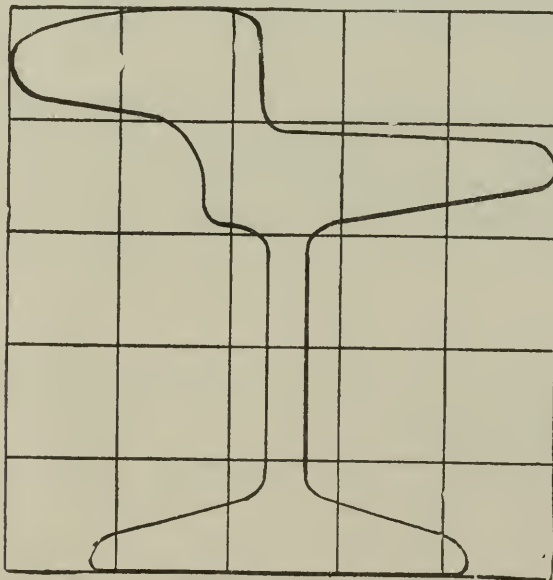
45

Complainant's Exhibit Brevoort Diagram.

Defendant's Rail, Figure 1.



Patented Rail, Figure 2.



U. S. Circuit Court, N. D. of California.

JOHNSON Co. }
 vs. } No. 10,394.
 SUTTER ST. RY. Co. }

JOHNSON Co., }
 vs. } No. 10,393.
 PACIFIC ROLLING MILLS Co. }

Complainant's Ex. Brevoort Diagram.

R. G. MONROE, *Exr.*, April 29, 1890.

(Endorsed:) Opened by agreement and re-filed August 27, 1890. L. S. B. Sawyer, Clerk. By F. D. Monckton, Deputy Clerk.

46

Caption to Deposition.

In the Circuit Court of the United States for the Ninth Judicial Circuit in and for the Northern District of California.

| | | |
|--|---|---------------------------|
| THE JOHNSON COMPANY, Complainant, | } | In Equity. No. 10,393. |
| <i>vs.</i> | | |
| PACIFIC ROLLING MILLS COMPANY, Respondent. | | |

Be it remembered, that, on the seventh day of November, A. D. 1889, and on the several days thereafter to which the examination was regularly adjourned, as hereinafter set forth, at my office, room 57, in the United States Appraisers' Building, on the northeast corner of Washington and Sansome streets, in the City and County of San Francisco, State of California, before me, S. C. Houghton, Examiner in Chancery, of the Circuit Court of the United States for the Ninth Circuit and Northern District of California, personally appeared the several witnesses whose names are hereinafter set forth, who were produced and examined on behalf of the respective parties to the above entitled cause.

W. F. Booth, Esq., and G. J. Harding, Esq., appeared as counsel on behalf of complainant, and M. A. Wheaton, Esq., as counsel on behalf of respondent.

Following is a record of the proceedings:

47

Deposition.

THURSDAY, *November 7th*, 1889.

Present: Mr. Booth, of counsel for complainant; Mr. Wheaton, of counsel for respondent.

(Complainant introduces in evidence copy, duly certified by the United States Commissioner of Patents, of United States Letters Patent No. 272,554, granted February 20th, 1883, to Tom L. Johnson, for improvement in street railroad rail. Marked "Complainant's Exhibit A.")

(Complainant also introduces in evidence like certified copy of assignment, dated the ninth day of _____, 1883, conveying all rights under the patent "Exhibit A" from Tom L. Johnson, the patentee, to Johnson Steel Street Rail Company. Marked "Complainant's Exhibit B.")

(Complainant also introduces in evidence copy, certified by the Clerk of the Jefferson County Court, Kentucky, of the articles of incorporation of the Johnson Steel Street Rail Company, a corporation organized under and by virtue of the laws

of Kentucky, and also of the amendments to said articles of incorporation whereby the name of said corporation is changed to that of "The Johnson Company." Marked "Complainant's Exhibit C.")

(Complainant also introduces in evidence section of street rail. Marked "Complainant's Exhibit D.")

(Complainant also introduces in evidence sectional drawing representing the rail "Exhibit D." Marked "Complainant's Exhibit E.")

(It is admitted as a fact by both complainant and respondent herein, that the Pacific Rolling Mills Company, respondent herein, manufactured and sold at its mills, in the City and County of San Francisco, State of California, after the 20th day of February, 1883, and before the 4th day of June, 1889, the date of the commencement of this suit, the railway rails like that shown by the rail section and sectional drawing thereof, Complainant's Exhibits "D" and "E," respectively.)

(Examination continued, in conformity with agreement of counsel for the respective parties herein, subject to agreement and notice.)

49

SATURDAY, *August 23d*, 1890.

Present: Mr. G. J. Harding, of Counsel for Complainant.

This day was set apart for taking testimony herein, at the request of counsel for complainant.

No counsel on the part of respondent, and no witness appearing, the examination is continued at the request of counsel for complainant until Monday, August 25, 1890, at half past ten o'clock, A. M.

MONDAY, *August 25*, 1890.

Present: Mr. G. J. Harding, of Counsel for Complainant.

(Examination further continued, in conformity with agreement of counsel, until Tuesday, August 26, 1890, at half past ten o'clock A. M.)

TUESDAY, *August 26*, 1890.

Present: Mr. G. J. Harding and Mr. Booth, of Counsel for Complainant, Mr. Wheaton, of Counsel for Respondent.

(Examination further continued, in conformity with agreement of counsel, until Wednesday, August 27, 1890, at two o'clock P. M.)

WEDNESDAY, *August 27*, 1890.

Present: Mr. Harding and Mr. Booth, of Counsel for Complainant, Mr. Wheaton, of Counsel for Respondent.

Examination-in-chief of PATRICK NOBLE, on behalf of respondents.

By Mr. WHEATON:

Q. 1. State your name, age, place of residence and occupation.

A. My name is Patrick Noble, my age forty-one years. I reside in San Francisco, and am by occupation Superintendent of the Pacific Rolling Mills.

Q. 2. Have you read the specification and drawings of the complainants' patent sued on in this case, and do you understand them?

A. I have read them, and understand them.

Q. 3. How many of the cable street-railroads in this city have used girder rails with the web and foot of the ordinary T-rails?

A. I think all—all, except the Clay Street and Sutter Street up to this time. The Sutter Street now uses it; so I think the Clay Street is the only one—No, there are three roads that do not use them: the Clay Street, the Geary Street, and the Union Street.

Q. 4. What kind of a rail was put on the Clay Street road when it was first built?

A. Well, it was a T-rail-girder rail.

Q. 5. What was the difference between that rail, as to shape, and the ordinary T-rail.

A. Of which, the Clay Street?

Q. 6. Yes.

A. It was an ordinary T-rail.

Q. 7. Now listen to the question I asked you a moment ago, as to how many of the cable street roads use girder rails with the web and foot of an ordinary T-rail, and see whether
51 you understood it.

(Q. 3 repeated.)

A. My answer was, all except three. Now, you want me to enumerate them?

Q. 8. No. I cannot understand why you make an exception of the Clay street road?

A. I ought not to have done so in the case of the Clay Street Railroad. I had my mind on the patent rail. It was a girder rail that was used. I should have said that all the cable roads in this city, except two, used such rails, those two being the Union street and the Geary street roads.

Q. 9. Which was the first cable road built here?

A. The Clay street.

Q. 10. When was that built?

A. Well, I don't remember exactly. It was somewhere about 1877.

Q. 11. Wasn't it set running in 1873?

A. No, I don't think so. I don't know. I don't recollect.

Q. 12. Which was the next cable road built after the Clay street, in this city?

A. My recollection is that it was the California street road. I am not exactly certain, but it was either the California street or Sutter street. I think the California street was prior.

(The following are admitted as facts in this case by both complainant and respondent, namely:

That the Clay Street Cable Road commenced operating in San Francisco in the year 1873.

52 That the Sutter Street Cable Road commenced operating in 1876;

That the California Street Cable Road commenced operating in San Francisco in 1878;

That the Geary Street Cable Road commenced operating in San Francisco in 1880.)

Q. 13. Please look at this section of the defendant's rail, "Exhibit D," and state what the differences are, if any, between that rail and the rail shown in the patent sued upon?

A. This "Exhibit D" has a straight bearing for the wheel, and we avoid, as a disadvantage, the curve which the complainant claims in his patent is an advantage.

Q. 14. Does your last answer refer to the curve on the top of the head of the rail on which the tread of the wheel runs?

A. Yes, sir.

Q. 15. Please explain why you consider that curve shown in the patent to be a disadvantage?

A. A street railroad in San Francisco would not accept of a rail of that construction, because it would wear out the wheels too fast, and also the rail.

Q. 16. How much surface for the head of the wheel that would be practically level do the railroads require for the tread of the wheel to run on?

A. From an inch and three-quarters to two inches, in this city. The complainant's rail is about half an inch.

Q. 17. Half an inch of what?

A. The bearing for the wheel. That would not be salable in this city—that is, so far as the head is concerned.

Q. 18. Has there ever any rail been used in this city, or
53 made by your company, having the curvature on the surface of the head which is shown in the patent?

A. No. Every rail of the girder shape has to have a slight taper in order to clear the roll—come out of the groove

in the rail. But we make the top of the head of the rail as nearly straight across as mechanical difficulties will permit in rolling. This rail is rolled upon its side, and in rolling the head of the rail, if it was absolutely straight it would not clear the roll, and we make it as nearly straight as possible in order to clear the roll, and avoid the complainant's curve, which we think to be a defect.

The next point of difference is that we make the head of the rail as much over the web as possible, in order to make the rail a balanced rail. The complainant's rail, with the head outside the center line, is directly opposite to what he claims—an unbalanced rail. We so construct a rail as to put the weight of the car on the center line, and the complainant throws it back, giving it a tendency to spread the tracks. I think those are the two most prominent differences in the rails. We have, in fact, adopted his dotted line for the head of the rail, which he is avoiding. He, in his claims, claims that the dotted line is not a good section, and so, in order to get his patent, he adopts the black line. Now, we adopt the dotted lines on our section, nearly, without needing anything about this patent at all. It is simply a question of mechanics.

Q. 19. In your last answer do you refer to the lines in "Fig. 4" of the patent?

A. Yes, sir. As to the dotted line below the head, he claims that he changes it from the "j L g" line to the "j h g" line, in order to give a better pocket for sand, gravel, or macadam, affording a backing to his rail; and that shape
54 never was made that I know of. We never made it.

Q. 20. Which shape was never made?

A. The shape represented by the "j L g" line. H assumes a deceptive which has never been used.

Now, in reference to the offset "C," he claims that by using that offset he affords a greater pocket capacity for the packing of sand, macadam or gravel. We put it on ours simply to make the two fish-plates equal. As a pocket to receive sand, gravel or macadam, it is a defect, it is an obstruction to the packing as it comes in. If the curve "j h" were continued around in a true curve it would afford a better pocket. So, in that respect, we look upon that offset "C" as a defect.

I will make another statement here, from what I see in the claims of the patent. He claims that the making of this rail in this peculiar shape, the combination of the head "B," the flange "A," and the foot "D"—that he distributes his metal in such a way as to do away with the necessity of cambering or curving while it is hot, during rolling. In our rail we have it put at four or five inches to the camber or curve because the distribution of the metal in our rail makes the foot cool faster

than the head, and it is necessary while it is hot to bring it on a curve with the foot, on the inside of the curve, so that the head cooling slower and later, it draws it straight almost. Now, the cambering is simply a part of the process of straightening the rail, and only a part. It is easier while the rail is hot to put the cambering in, and the cooling brings it to a straight line. The balance of the process is carried out when it is cold.

55 Q. 21. The balance of the process of straightening?

A. Yes. The cambering is part of the process of straightening. In the specification of the patent it says: "All necessity of cambering in the rolling of said rail is therefore obviated, and if the rail be delivered straight and true from the rolls, then it will remain perfectly straight and uncurved when cold." Well, I know that we have never, and I don't think any mill in the world has ever delivered a rail to put down on a surface. It has got to go through the process of straightening, either when hot or when cold. We do part of ours when hot and part of it when it is cold. This rail marked "Exhibit D" required more camber than any rail we have ever made; so that in that respect complainant's claim does not touch us at all.

Referring to the arrangement set out in Claim 5 of the patent, we arrange the relative position of head, flange and web entirely different from the patentee. To go back to this claim: "Another peculiarity of this rail is that the head, flange, web and foot are substantially of equal mass of material." This is not making a comparison, but his head, web and flange are not an equal mass of material. The preponderance is with the head and flange. I am calling attention to that in reference to the heating and cooling off, the contraction in cooling. His rail will require cambering also. That is why I call attention to that. The mass of metal above the web is so much greater than the mass below the web that the cooling will not be equal in the complainant's rail; and that is self evident.

Another peculiarity of the figures that he gives is that he connects all the comparisons of the rails that he desires
56 to patent with an old tram-rail, entirely ignoring the fact that a girder rail had been made years before (referring to Figures "2" and "3" of the patent sued on.) If he had taken the rail made for the California-street road, which was well known when his patent was taken out, and made a comparison there between his form of rail and the form used on the California-street road, these claims he makes would not have been apparent, and especially the one where he uses the back of the rail as a pocket for the sand, gravel and cement,

because the old California-street rail furnishes a better pocket, the offset "C" being an obstruction.

Q. 22. In the defendant's rail is the web located relatively to the flange, "A," and head, "B," as described in the patent?

A. As I have said, no.

Q. 23. In that respect, how does the relative location of the web, head and flange compare in the defendant's rail with the relative location of the web, head and flange in the old California-street rail?

A. They are practically the same. That is, the weight of the car comes directly over the web.

Cross-examination PATRICK NOBLE.

By Mr. HARDING:

X.-Q. 1. What I understand you to say is that your rail is more nearly represented by what is shown in the dotted lines, "d," in "Fig. 4" of the patent sued on. Is that so?

A. Yes; with the exception of the curve on the back side of the head, our head being straight.

57 X.-Q. 2. Now, you are perfectly sure of this? That is, you have tested it beyond that which comes from looking at this "Fig. 4" alone?

A. Having "Exhibit D" and "Fig. 4" of the patent now before me, I see in "Fig. 4" that the dotted line brings the head directly over the web of the rail. In "Exhibit d" it brings it directly over the web of the rail. It is not a matter of opinion, it is before you; and the black lines in "Fig. 4" brings the head back of the web.

X.-Q. 3. That is, what you contend is that in your rail the head is shoved over as shown by the dotted lines in "Fig. 4" of the drawings of the patent?

A. To a certain degree. I do not admit that the dotted line in that figure is exactly like our head.

X.-Q. 4. But beyond that slope it is; is that what you mean?

A. Yes.

X.-Q. 5. That is, if we take "Fig. 2" of the patent, your web has remained fixed while the head portion of the rail has been pushed laterally?

A. I don't know exactly how to express it that way. What I mean is that our web is directly under our head, and that your web is absolutely out from under your head. The difference is very marked.

X.-Q. 6. Yes, but you don't understand my question. Now, take "Fig. 2" of the patent; you mean to say, do you, that

your rail differs from the patented rail in that while the web stands where it is, as exhibited in "Fig. 2," the portion above the web is moved laterally, always excepting, of course, the top line of the head?

58 A. Always excepting that neither the head, the web, or flange, are alike. The fact is that you make me except to the whole thing.

X.-Q. 7. (X.-Q. 6 repeated.)

A. That will conform somewhat to it, but I don't mean to say that it is absolutely so. It will conform to it. Of course, if you move it, taking "Fig. 2" at the letter "R," why you would do away with the offset, and so that wouldn't be so, you see. Your question is not a practical one. The only way to make the question practical is to put our rail down on your rail, and then you will see what the difference is.

X.-Q. 8. Then, as a matter of fact, Mr. Noble, the best way of finding out whatever difference exists between the patented rail and your rail is to put one on the top of the other?

A. I didn't say that. I said if you wanted to make me draw lines I would put one on top of the other, and then I know I would have mine correct. No, I differ with you. The best way is to state that our head is straight, and has not got a backward declination, and that our web is over the head, and yours is not, in either case.

X.-Q. 9. Now, after all, that is the best way to point out the differences, just as you state now?

A. I think so.

X.-Q. 10. There is no use of mixing it up with dotted lines, or anything of that kind. What you stated in your last answer but one is as fair a way for anybody to understand it as any, isn't it; if not, say not?

A. I think that points out the difference exactly. I will say further, that if I wanted to show the difference between these two rails to an untechnical mind I would take the patent
59 rail here as represented in the patent, of the same weight and all, preserving the same proportions as he has got it. Mine is a heavy rail, and his is a very light one, you see; and I would draw my rail over that in a different colored ink, and that would show the thing to a dot. That is what you ought to have.

X.-Q. 11. That is what I state: the best way to do so is to put one rail, or the drawing of one rail on top of the drawing of the other.

A. Making the weights per yard the same.

X.-Q. 12. Making them even exactly?

A. Yes. If you put "Exhibit D" on "Fig. 2," it misleads you, because there is so much difference in the scale.

X.-Q. 13. Now there is no question but what you have an offset on your rail, is there?

A. At "C." We have an offset at "C," in "Fig. 2."

X.-Q. 14. In your rail?

A. We have an offset corresponding to the offset "C," shown in the patent, but it is for the purpose of making the fish-plates equal, only.

X.-Q. 15. Now, you cannot even fish-plate on this California Street rail, can you?

A. No; we use a fish-plate on it.

X.-Q. 16. And you can even fish-plate on your Sutter Street rail, can't you, which is herein alleged to be an infringement?

A. Yes, sir.

X.-Q. 17. This California Street rail, and the Omnibus rail, that you roll, are the only two flanged or girder rails in use in this city, are they not, with the exception of the rail complained of in this suit?

60 A. Yes. I will make an exception of that, of course. We roll numbers of girder rails, but not for street railroad purposes.

X.-Q. 18. They are not flanged?

A. No, sir.

X.-Q. 19. Well, that question was restricted to "flanged"?

A. No; they are not flanged.

X.-Q. 20. Now, in this rail complained of, you have a head which projects to one side of the web, have you not?

A. Partly.

X.-Q. 21. Well, it projects to one side of the rail, doesn't it?

A. Part of the head does—yes. The whole head don't.

X.-Q. 22. Well, the head extends to one side, beyond the web, doesn't it?

A. Yes, sir.

X.-Q. 23. While it does not extend beyond the web on the other side, does it?

A. Well, it does very slightly.

X.-Q. 24. And you have projecting from the other side of the web a tram or flange?

A. Yes.

X.-Q. 25. And you have a web, have not not?

A. Yes.

X.-Q. 26. And you have an offset corresponding to the offset "C," shown in "Fig. 2" of the patent, have you not?

A. I have.

X.-Q. 27. Suppose that offset were removed from your rail, and the line of the curve of the head were carried to its junction with the web, would there be sufficient metal at the point where the tram or flange meets the head to form a safe and practical rail?

A. Yes; more than yours—thirty per cent. more, I should think.

61 X.-Q. 28. More than ours, with the offset and all.

A. Yours is a half an inch, and mine would be within a fraction of three-quarters of an inch, and that would be nearly fifty per cent. more than yours, having the offset.

X.-Q. 29. Did you take the measurement from the point of the offset?

A. I took it at the narrowest point.

X.-Q. 30. You didn't take it, then, from the point of the offset?

A. I took it where it is narrowest.

X.-Q. 31. I ask you, did you take it from the point "g"?

A. I took it from the point where it is narrowest; from the point where it is weakest.

X.-Q. 32. You took your measurements from the drawing of the patent, when speaking of the patent rail, didn't you?

A. Yes, sir.

X.-Q. 33. You stated that you were connected with the defendant company, didn't you, the Pacific Rolling Mills?

A. I am the superintendent, sir. I am the one that makes those rails.

X.-Q. 34. Look at the patented rail. The offset "C" in that patent enables even fish-plating to be used, doesn't it?

A. Yes, sir.

By Mr. BOOTH:

X.-Q. 35. Mr. Noble, in answer to Mr. Wheaton, upon your examination-in-chief, you referred to the dotted lines represented by the letter "d" in "Fig. 4" of the complainant's patent, and stated that your rail more nearly conformed to the section represented by that dotted line which was the very section which the patent stated to be disadvantageous. I will now ask you whether you referred to the matter from lines 60 to 66, inclusive, on page 2 of the specification of the
62 patent?

A. No, I stated, if I recollect, in my answer, that I referred to Claim 5. If I didn't say it this way, it is what I intended to state. I intended to state that the web "E," flange "A" and head "B," were diametrically opposed in our rail to the complainant's, and that the principle was more clearly shown by his dotted line "d"—that it carried out our principle more than his. It is not the conformity that I was speaking of, but the principle.

X.-Q. 36. Did you not state that the patent stated that were the head and flange moved over to the position shown by the dotted line "d" it would be a disadvantage?

A. I don't understand your question.

X.-Q. 37. (X.-Q. 36, repeated.)

A. So far as the principle is concerned, I am not saying that I took the section and moved it over.

X.-Q. 38. (X.-Q. 36, repeated.)

A. I think I said so far as the head was concerned. I think you made the distinction. I made the exception that so far as the head was concerned that dotted line more nearly carried out our principle, and which the complainant said was a disadvantage. Of course that was my recollection of what the complainant claimed was a disadvantage. I am certain that I made the exception that it was only the lines on the head.

X.-Q. 39. Well, do you gain your opinion of what the patent states in that regard from line 60 to 66, inclusive, of page 2 of the specification?

A. I couldn't say whether it was or not, without reading over the whole thing.

63 X.-Q. 40. Well, read the lines, if that is the place?

A. Well, I don't know whether that is where I drew my inference from or not, although that does refer to that very thing, and I think it would be an advantage to do just what he has said, looking at his rail entirely—looking at his section.

X.-Q. 41. "To do just what he has said," what do you mean by that? What do you mean by "to do just what he has said?"

A. What he has said between lines 60 and 66, inclusive; throw this head forward at "d" and keep the offset, "C," intact.

X.-Q. 42. Stationary?

A. Yes, sir; I think it would make a stiffer and a preferable rail.

X.-Q. 43. Do you or do you not do that in your rail?

A. We do that.

X.-Q. 44. That is, you mean to say that you throw your head and flange over and keep your offset stationary?

A. Yes; and thereby gain greater strength.

X.-Q. 45. Mr. Noble, I will show you "Complainant's Exhibit Brevoort Diagram," and you will see that "Fig. 1" represents your rail, and "Fig. 2" represents the rail of the patent. They are on different scales, are they not?

A. Yes, sir.

X.-Q. 46. Do you see the object of the squares in which these rails are delineated?

A. I would take it that it was to show the relative position of the head and flange and web.

X.-Q. 46. Now, looking at those two figures, are not the offsets in the same position?

A. No.

X.-Q. 47. How are they in different positions, if so?

64 A. Well, in the center square it comes up above the web in the defendant's rail, in "Fig. 1;" and in "Fig. 2" it comes below the square into the web.

X.-Q. 48. Acknowledging the correctness of this answer, so far as a vertical plane is concerned, let me refer you to a lateral. Are they not in the same position laterally?

A. They are not. In "Fig. 2," in the vertical line of squares, your web is in the middle of the squares. In "Fig. 1," in the defendant's rail, the web is to the left of the center.

X.-Q. 49. I refer to the offset only.

A. It is the same, with reference to the offset.

X.-Q. 50. Is not the point of the offset in "Fig. 1" the same distance from the left-hand line of the diagrammatic squares as the point of the offset in "Fig. 2" is from the same line of its diagrammatic squares?

A. Of course you cannot answer that exactly, because they are not on the same scale; but I should say, no.

X.-Q. 51. Are they not, relatively, the same distance from that line?

A. No; you can't say that. The only way to answer that question is as a claim is made in relation to the three parts.

X.-Q. 52. I am only speaking of the offset.

A. The offset is not the same in both. Now, if we scale it, would it be the same? That is a question I cannot answer. We would have to scale it to find out. You might say so, and I would think not, and we would both be pretty near right. We would have to scale it to see?

65 X.-Q. 53. Mr. Noble, if defendant's rail as represented by "Exhibit D" were reduced to the scale or to the same size as the drawing "Fig. 4" in complainants patent, would the distance from the point of your offset to the junction of head and flange be as great as the distance from the point "g" in "Fig. 4" of complainant's patent to the junction of the head and flange on the dotted line "d"?

A. Well, I couldn't say. We would have to do it to find out. It is one of those things you couldn't tell by your eye. You can't tell that by your eye. It might and it might not be.

X.-Q. 54. Well, what do you think? Give us the best answer you can.

A. Well, that is the best answer I can give, that it might come so, and it might not. I will measure this and see. You see the distance from the point of the offset in "Fig. 4," to the junction of the head and flange, using the dotted line "d," is nine-tenths of an inch, and the distance between the same points on "Exhibit D" is nearly eleven-tenths of an inch, and

from that you can see if this rail were reduced it would reduce that distance, and it would then more nearly approach the distance shown on the patent drawing between those points.

X.-Q. 55. Now, if the reduction in the scale were made, as before intimated, do you not think that, from an observation of the defendant's rail and the drawing, that the distance between the points mentioned in the drawing would be greater than the distance between the points mentioned in the rail so reduced?

A. No, I should not; and I can only argue from sight, and that is very deceptive.

66 Re-examination of PATRICK NOBLE.

By Mr. WHEATON:

R.-Q. 1. Were the girder rails which were used on the Clay Street cable road when it first started here, even fish-plated?

A. Yes, sir.

R.-Q. 2. As the defendant's rails have been laid on the Sutter Street cable road, was there ballast used for pavement which filled in the pockets on each side of the rail between the foot and flanges?

A. No, sir; it was laid in stone and concrete; in concrete on the inside, and stone on the outside—basalt rock.

R.-Q. 3. How were those stone blocks arranged in connection with the rail in the pavement?

A. Set square up to the flange and head of the rail, both front and back. That is one of the features of the girder rail, which is its adaptability for paving.

R.-Q. 4. You mean the advantages of the girder rail, or flange and head, is that you can lay those stone blocks up against them?

A. Yes, sir.

R.-Q. 5. As they are used in practice, do the top of the stone paving blocks come up level to the top rail on the street?

A. Yes, on a level with the head; and some put it on the level of the flange, and some up above, but it is better to have it on a level with the flange.

R.-Q. 6. Was that the way that the rails and paving were laid on the California Street road in 1878?

A. Yes, sir.

By Mr. HARDING:

R.-Q. 7. The rail that you spoke of in use on the Clay Street road is the ordinary T-rail, is it not?

67 A. Yes, sir.

R.-Q. 8. Without flanges projecting from the head at all?

A. No, sir; it had no flanges.

Mr. Wheaton: Defendant rests.

(It is stipulated and agreed, by and between counsel for the respective parties herein, that the foregoing deposition of the witness Patrick Noble, may be transcribed and used in the case of Johnson Company vs. Sutter Street Railway Company, and be of the same force and effect as if originally taken in said case.)

68

Certificate to Deposition.

I certify that the foregoing depositions were taken at the place stated in the caption to said depositions, at the several times set forth in said depositions, in my presence, and in the presence of counsel for the respective parties to the cause in said caption, entitled: that, previous to giving his testimony, each of the witnesses in said depositions named was by me duly sworn to tell the truth, the whole truth and nothing but the truth, in said cause; that said depositions were, except in so far as they were taken down in writing by the Examiner, taken down in shorthand writing and transcribed by A. L. Coombs, pursuant to stipulation and agreement of counsel; that said depositions, after being so transcribed, were read by, or by me to, the said witnesses, and signed by them, respectively, except in those cases where such reading and signing were, by agreement of said counsel, waived, as in said depositions set forth; and that I have retained said depositions for the purpose of delivering the same with my own hand to the Court for which, they were taken.

Accompanying said depositions, and forming part thereof, are the several exhibits introduced in connection therewith, and referred to and specified therein.

I further certify that I am not attorney nor of counsel for any of the parties to said cause, nor in any way interested in the event thereof.

In witness whereof, I have hereunto set my hand, this tenth day of November, A. D. 1890.

S. C. HOUGHTON,
Examiner in Chancery,
U. S. Circuit Court, Northern Dist. of Cal.

.(Endorsed:) Testimony opened and re-filed Nov. 20, 1890.
 L. S. B. Sawyer, Clerk.

69 U. S. Circuit Court, N. District of California.

THE JOHNSON CO.

vs.

PACIFIC ROLLING MILLS CO.

} No. 10393.

Complainant's Exhibit A.

(Patent Sued on.)

S. C. H., *Examiner.*

DEPARTMENT OF THE INTERIOR.

(Vignette.)

UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent granted Tom L. Johnson, February 20, 1883, Numbered 272,554, for improvement in street railroad rail.

In testimony whereof, I, C. E. Mitchell, Commissioner of Patents, have caused the seal of the Patent Office to be affixed this 24th day of October, in the year of our Lord one thousand eight hundred and eighty-nine, and of the Independence of the United States the one hundred and fourteenth.

[SEAL.]

C. E. MITCHELL,
Commissioner.

70

No. 272,554.

THE UNITED STATES OF AMERICA.

(Vignette.)

To all to whom these presents shall come:

Whereas, Tom L. Johnson, of Indianapolis, Indiana, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in street-railroad rails, a description of which invention is contained in the specification, of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and

Whereas, upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law;

Now, therefore, these letters patent are to grant unto the said Tom L. Johnson, his heirs or assigns, for the term of seventeen years from the twentieth day of February, one thousand eight hundred and eighty-three, the exclusive right to

T. L. JOHNSON.

STREET RAILROAD RAIL.

No. 272,554.

Patented Feb. 20, 1883.

Fig. 1.

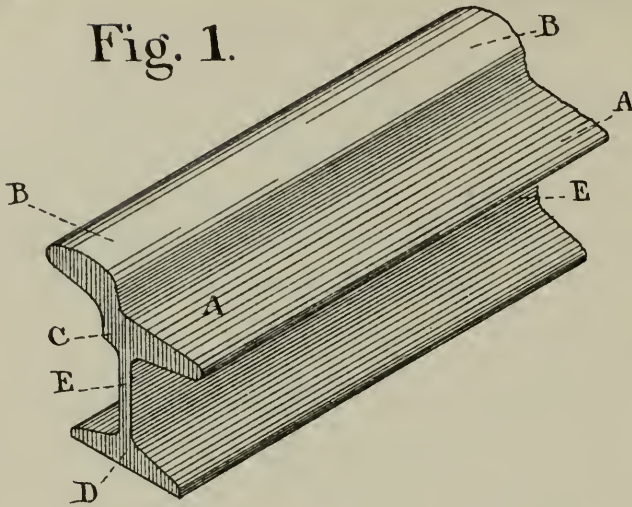


Fig. 2.

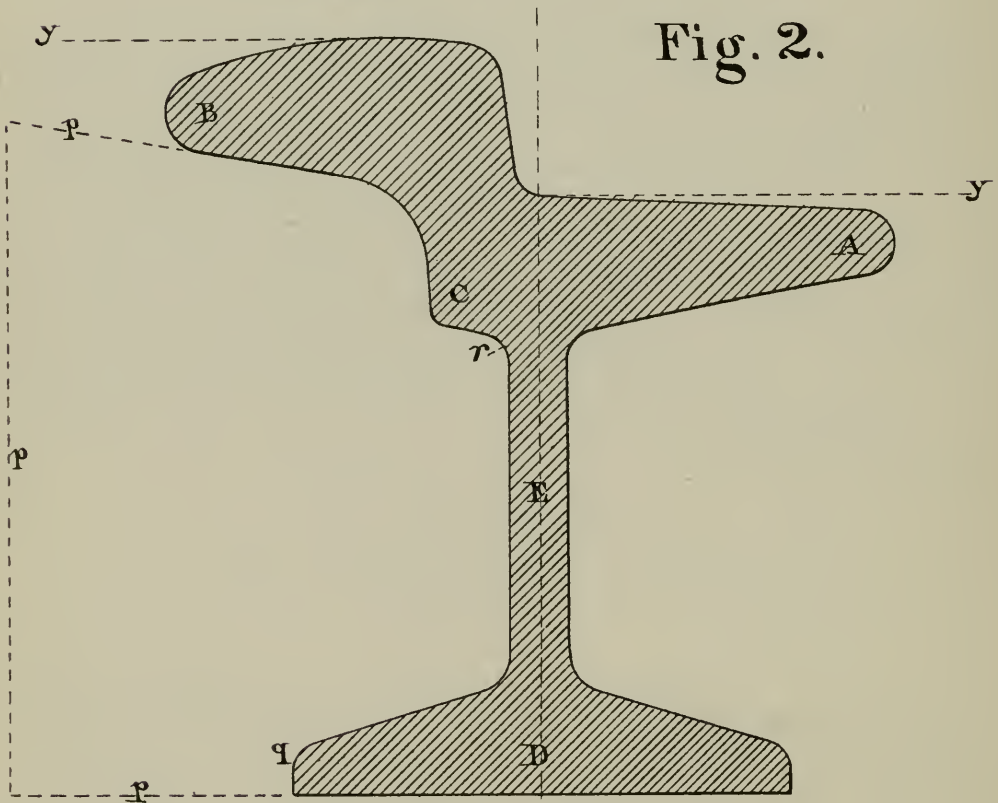
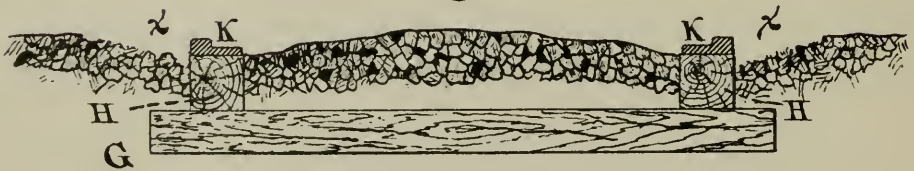


Fig. 3.



Witnesses:

Horatio C. King

Inventor

Tom. L. Johnson

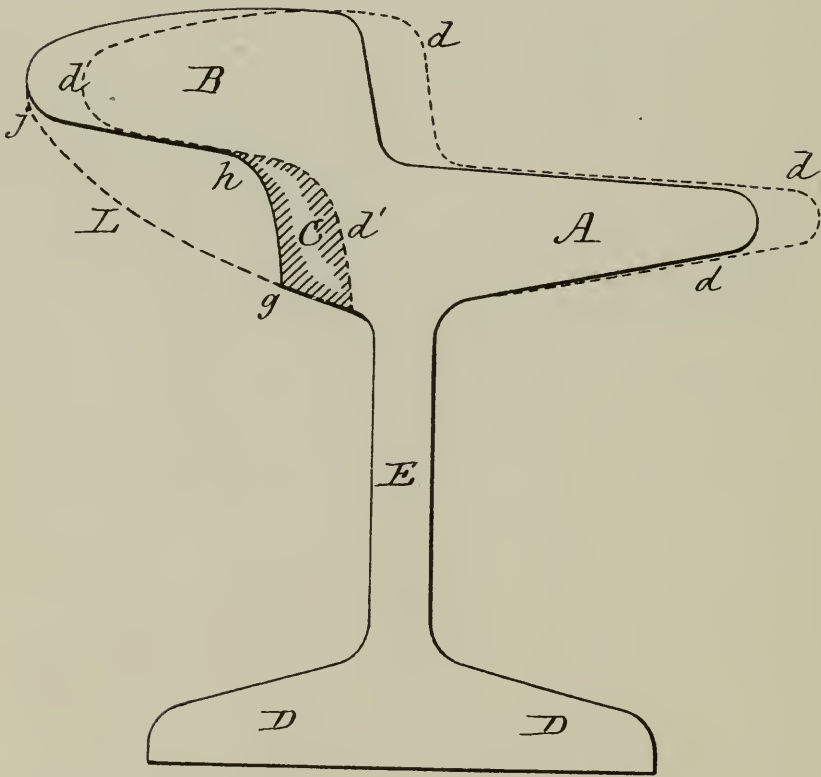
T. L. JOHNSON.

STREET RAILROAD RAIL.

No. 272,554.

Patented Feb. 20, 1883.

Fig. 4



WITNESSES

W. B. Masson

INVENTOR

T. L. Johnson

make, use and vend the said invention throughout the United States and the Territories thereof.

In testimony whereof, I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington this twentieth day of February, in the year of our Lord one thousand eight hundred and eighty-three, and of the Independence of the United States of America the one hundred and seventh.

[SEAL.]

71 Countersigned:

M. L. JOSLYN,
Acting Secretary of the Interior.

E. M. MARBLE,
Commissioner of Patents.

UNITED STATES PATENT OFFICE.

Tom L. Johnson, of Indianapolis, Indiana.

Street-Railroad Rail.

Specification forming part of Letters Patent No. 272,554, dated February 20, 1883. Application filed September 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, Tom L. Johnson, of the city of Indianapolis, County of Marion, and State of Indiana, have invented certain new and useful improvements in street-railroad rails, of which the following is a specification:

The object of my said invention is to improve the form of that class of railroad rails, used principally by street railroads, which combine the principal features of the tram-rail, ordinarily used for such purposes, and those of the T-rail used on steam-railroads.

I am aware that rails embodying the general features above mentioned are old, and I therefore disclaim the same, and confine myself to the form hereinafter particularly described and claimed as new.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a portion of a rail formed in accordance with my invention, and Fig. 2 a transverse vertical section of the same. Fig. 3 shows a section of a street-railway bed and ordinary rails as commonly laid.

In said Figs. 1 and 2 the letter A indicates the flanged portion of the rail; B, the head of the rail; C, an offset under the

head of the rail, abutting the web E, on the side of said web opposite to that continued out into the flange A. The web E extends from the foot D to the angles respectively formed on opposite sides by its union with the offset C and flange A, thus securing a uniform depth of web proper for the fish-plates to clamp.

In Fig. 3 the letter G indicates an ordinary cross-tie, the letters H H stringers, such as are ordinarily used upon street-railways, and K K an ordinary form of street-rail laid thereon. The letters *x x* indicate the edges of the adjacent and underlying roadway.

A peculiar and important feature of this rail is the offset C, which, while serving the purpose of a close fit for the splice-bar or fish-plate, as above mentioned, also serves another equally or more important purpose in the general conformation of and peculiar disposition of metal in the rail.

In the ordinary tram-rail or street-car rail the wear and tear of the street immediately adjoining the rails is an item of serious importance and cost. It is noticeable that after an ordinary track has been laid the street on both outer sides, in particular of the rail, becomes quickly grooved, allowing the water to collect there, by which the timber-work beneath the rails is rapidly rotted and ruined, thus, besides interrupting and annoying ordinary traffic, necessitating loss of time and heavy expense in street repairs. This wear and tear can best be illustrated by referring to Fig. 3. At the points *x x*, on the outer sides of the rails, owing to the lack of some supporting medium for the earth or gravel and ballast surrounding the rail, the street becomes quickly depressed or worn down and grooved. Such a supporting medium, however, actual practice has shown is conspicuously attained by the peculiar form of section given to the rail forming the subject of this invention on both sides, but more particularly on the outer and most important side of the rail.

The splice-bar offset C is a large factor in the proper retaining of this ballast, for it is large enough, with its square corner, in connection with the curved or arched shape of the lower part of the head and T-shaped foot, to allow the surrounding and superincumbent traffic to press the ballast—gravel and stones of the street—into and against the rail, instead of (as shown in Fig. 3) cutting away the surface of the street from the rails. By sweeping out the metal between the dotted line L and the true outline *g h j*, Fig. 4, instead of carrying the curve from the point *g* to the outer edge, *j*, a freer flow of the small stone or the looser ballast is permitted under the head, and a more capacious pocket presented for its reception than would otherwise be the case. The shape of these rails, more-

over, is such that the ballast and earth are retained by them, when so pressed into them, and solidified by the ordinary street traffic. This will be apparent by referring to Fig. 2, in which the dotted outline $p p p$ may represent a mass of ballast, gravel, or stone, part of the street-bed. Now, the tendency of the wheels running alongside of the track above would be to throw the rail over on a center at about the point q , for q being taken as a center and the dotted line $q r$ as a radius, it will be seen that the offset C , the lower curve of the same being eccentric to the assumed center at or near q , will clamp the ballast and hold the rail by reason of such clamping and also by its surface-friction. Consequently the packed earth or ballast will be gripped and retained tight-packed under the head, and between it and the offset and foot of the rail, and thus preserve the location of the rail and maintain intact the gage of the road. This latter point may be further emphasized thus: The general tendency of street-car or of other tracks is to lose their gage by spreading, rather than by closing, of their tracks. This is usually caused by the loosening of the surrounding ballast in the first place, thus taking away a main cause of resistance to the spreading tendency of the street-cars, but still more to that of the vehicles traveling on the track subsequent to such loosening. Hence the firm clamping and retaining of the outside ballast, due to the peculiar shape of this offset, together with the proportion and general shape of the under side of this rail, serves effectively the purpose of retaining the gage of the track. It is, moreover, obvious that, so far as the ballast is concerned, the reverse of this takes place—that is, the same shape and cause that clamps the rail to the ballast will serve to clamp the ballast to the rail—if we consider the rail as the stationary point of resistance, and the ballast, being now considered as a homogeneous block, as free to move over on the assumed center near q . Thus is effected the double purpose of preserving the integrity of the streets, as well as maintaining the gage of the road intact. The latter is, in fact, consequent upon the former.

Although the municipal regulations of many cities demand that a rail of not less than a given width be used, varying from four to five and a half inches, yet owing to the wear and tear of the street, due to the causes above explained, it has become imperative upon street-railroad companies to lay as wide a rail as possible; but such necessary width can only be obtained, in the rolling of a web and flange rail, by a careful location of the web with reference to the head and to the depth of flange allowed to enter each roll, for the pitch-line of the roll-train should pass through the center of the web. This demand is provided for in this rail, as will appear by reference to Fig. 2,

in which the web is so located that as much of the long flange A is thrown above the pitch-line of the bottom roll as is possible, it being understood that the flange ends and the head commence at the point touched by a line bisecting the curve connecting the head and flange. By this means the greatest facility in rolling is secured compatible with the proper stability of the rail. It will, moreover, be seen that this location of the head relatively to the vertical web secures an important economy in material, for by reference to Fig. 4 it will be seen that if the head, B, of this rail were to be thrown into the position shown by the dotted line $d d d$ while the shoulder $g h$ remains stationary it would necessarily increase the total mass of the metal at C to the extent of the mass contained between the outline $g h$ and the dotted line d' .

In all ordinary rails, of whatever width, the head and flange are generally straight, or very nearly so, presenting a square corner or step to the wheels of crossing vehicles, and as a consequence the impinging wheels of such vehicles strike solidly on and mount squarely over, if crossing the rail at nearly a right angle, but if at an angle inclined to the track the wheels slide sidewise, raking, scraping and tearing the street, as shown at the points $x x$, Fig. 3, whereas in the rail forming the subject of this invention this wear and tear of the street is prevented by the bevel given to both its head, B, and flange, A, as is indicated by their departure from the horizontal dotted lines $y y$, Fig. 2; for the wheels of passing vehicles will mount and pass over these rails, particularly on the outer or head side, at any angle, with little or no tendency to slide sidewise; for it will be seen by referring to said figure that the departure of the head of said rail from the horizontal rapidly increases from the point just beyond that which would be covered by the tread of the wheels. This part of the head is, in fact, an addition to the head proper, by which addition the extreme point of the bevel is thrown below the grade of the surrounding street, thus providing for the subsequent settling of the same. This conformation of rail would be impossible if the width of head were equal or only slightly wider than the tread of the wheels. Another peculiarity of this rail is that the head, flange, web and foot are substantially of equal mass of material. In rolling iron of peculiar shape there are generally well-defined points which determine the subsequent contraction of said shape during cooling. These points may safely be defined, in a general way, as being the extremely-exposed points of the given shape. It is an object gained in the manufacture of these shapes if the relation of these exposed points one to the other is such that the respective masses, taken together with their distance from the natural neutral axis of said shape, shall

the one neutralize the other in their contraction during cooling, and thus preserve a rolled bar of given shape free from distortion when cold. Thus star-iron, whose four arms are generally of equal section, remains free from distortion during cooling. In angle-iron, on the contrary, where there are three determining-points of contraction, the greater mass of metal in that one point forming the angle causes an excess of contraction at said point, and consequently curves and distorts the bar during cooling. So in the ordinary **T** and tram rail, the greater mass of metal in the head determines in a similar way excess of contraction at that point. It is, however, consistent with the above law to have a greater mass of metal in one part than in another, provided such excess of metal be not located in one of the determining-points of contraction, but rather situated at or near what may be defined as the neutral axis of contraction.

It will be seen that were the head of the rail forming the subject of this invention constructed as is ordinarily the case such construction would throw an excess of mass of metal into one of the determining-points of contraction of said rail, by which means the rail would become, as is ordinarily the case, distorted or curved in cooling. To avoid this it will be observed that the under part of the head in said rail is cut away, by which means the mass of metal at the determining-points of contraction, taken together with the respective distances of said points from the neutral axis, is such that the rail is not distorted or curved during cooling, and at the same time there is secured a lighter and equally efficient rail.

In ordinary rails the object has been to secure the longest wear by putting a maximum amount of metal in the head—the part most subject to wear—and a minimum of metal in the other parts. The effect of such construction is that in rolling the rail, when it leaves the rolls its thin parts are cooler than its thick parts, and the thicker parts, having most material, naturally retain the heat a longer time. Now, if such rail be delivered from the rolls straight and true, but with the above-mentioned difference of temperature in its several parts, that part having the higher temperature will shrink in cooling more than the thinner and cooler parts, in consequence of which unequal shrinkage the rail, when cold, will be bent and curved, even if it had been delivered straight. In practice, to counteract this curvature in cooling, it is customary, upon the delivery of such rails from the rolls, to give them a “camber” or reverse curve, so that in cooling the rail will tend by curving in the opposite direction to straighten itself. This means, owing to the variable conditions of temperature in the different rails, can only give approximate results. Now, owing to the

substantially equal mass in head, web, flange and foot of the rail, as hereinbefore described, together with their respective location from the neutral axis, the effect of temperature in the several parts is substantially uniform upon said parts. All necessity of cambering in the rolling of said rail is therefore obviated, and if the rail be delivered straight and true from the rolls, then it will remain perfectly straight and uncurved when cold.

It will also be observed that this construction of rail permits of the under side of the head being made concave, which construction secures a larger pocket for the retention of the ballast, and a contour permitting of the more easy inflow of the adjacent ballast, as hereinbefore described, than if the under side of the head were either convex or approximately square, as is generally the case.

It is of importance to bear in mind the fact that this rail is designed for the purpose of supporting the car by the tread of the wheels and not by their flanges, as is sometimes practiced.

Having thus fully described the form, uses and advantages of my said rail, as of my invention, I claim—

1. The combined tram and **T** rail described, in which the head *b* is constructed of a proper width to prevent the car wheels from coming in contact with the paving, and inclined from near its inner to its outer side, so that the weight of the car shall be at all times upon that portion of said head which is nearly directly above the web of said rail, substantially as shown and specified.

2. A combined tram and **T** rail having the head B, located with reference to the center line of the web, re-enforced, as at C, and proportioned with reference to the flange A and the remaining parts of the rail, substantially as described, whereby the metal is distributed in the several parts, so as to equalize contraction therein during the process of cooling, substantially as set forth.

3. The combined tram and **T** rail described, the width of whose head is proportioned and the lower part of its head curved and offset, substantially as shown and described, so as to allow the superincumbent pressure of ordinary adjacent street traffic to force the surrounding ballast into and against, instead of from, the rail, and to solidify and retain the ballast forced against and held by said rail, thus preserving the adjacent road-bed and maintaining an accurate gage of track, substantially as set forth.

4. In the combined tram and **T** rail described, the web E, located relatively to the flange A and head B, as described, so that a large part of the flange A is thrown above the pitch-line

of the bottom roll used in its manufacture, whereby, in rolling, increased facility and economy of manufacture are secured, substantially as set forth.

5. In the combined tram and **T** rail described, the web E, located relatively to the flange A and head B, offset at C, as described, whereby a maximum capacity of outside pocket is secured with a minimum quantity of metal consistent with the proper stability of the rail, substantially as set forth.

6. A combined tram and **T** rail having a reverse beveled or arched head, B, the outer bevel of which is prolonged and terminates in a rapidly-descending curve, by which conformation the extreme point of said curve is thrown below the grade of the surrounding street and the settling of the street provided for, and whereby great facility is afforded for vehicles to mount over and run across said rails, and wear and tear of road-bed or ballast adjacent thereto obviated or greatly diminished, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 9th day of September, A. D. 1882.

TOM. L. JOHNSON. [L. s.]

In presence of

C. BRADFORD,

E. W. BRADFORD.

(Endorsed:) Opened and re-filed Nov. 20, 1890. L. S. B. Sawyer, Clerk.

72 *Complainant's Exhibit B.*

U. S. Circuit Court, N. Dist. of Cal.

THE JOHNSON COMPANY

vs.

PACIFIC ROLLING MILLS CO.

} No. 10,373.

Complainant's Exhibit B. (Assignment of Pat. Ex. A, to Johnson Steel Street Rail Co.)

S. C. H., *Examiner.*

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:
This is to certify that the annexed is a true copy from the records of this office of an instrument of writing, executed by Tom L. Johnson, 9th day of _____, 1883, and recorded in Liber R, 29, page 184. Said record has been carefully compared with the original, and is a correct transcript of the whole thereof.

In testimony whereof, I, C. E. Mitchell, Commissioner of Patents, have caused the seal of the Patent Office to be affixed this 29th day of October, in the year of our Lord one thousand eight hundred and eighty-nine, and of the Independence of the United States the one hundred and fourteenth.

[SEAL.]

C. E. MITCHELL,
Commissioner.

Liber R, 29, P. 184.

Whereas I, Tom L. Johnson, of the city of Indianapolis, State of Indiana, have invented a certain new and useful improvement in railroad rails, for which Letters Patent for the U. S., Numbered 272,554, were issued to me on the 20th day of February, 1883; and,

Whereas, by a contract dated the 6th day of February, 1883, I did agree with J. V. Johnston, E. C. Moxham and A. I. Moxham, all of the city of Louisville, State of Kentucky, to form, under the laws of the State of Kentucky, a corporation, to be known as the Johnson Steel Street Rail Company; and,

Whereas, by said contract, I conveyed to the said J. V. Johnston, E. C. Moxham and A. I. Moxham, a one-half interest in said letters patent; and,

Whereas, it was agreed between the said parties to the said contract, that the said letters patent should be transferred, assigned and conveyed to the said corporation when formed; and, whereas, the said corporation, the Johnson Steel Street Rail Company has been duly created under the laws of said State; and,

Whereas I, and the said J. V. Johnston, E. C. Moxham and A. J. Moxham, have each of us subscribed to the stock of the said corporation, and have assigned and transferred to said corporation, in part payment of the stock taken by each of us, the interest owned by each of us in the said letters patent: now therefore, in consideration of the premises, and one dollar and other valuable considerations to me paid, the receipt whereof is here acknowledged:

I, the said Tom L. Johnson do hereby sell, assign and transfer unto the said the Johnson Steel Street Rail Company the whole right, title and interest in and to the said invention or improvement in railroad rails, patent for which No. 272,554 was issued to me on the 20th day of February, 1883, as described, for the said company's own use, and for the use of the said company's legal representatives.

74 In testimony whereof I have hereunto set my hand and affixed my seal this 9 day of _____, 1883.

TOM L. JOHNSON.

In presence of

H. L. CROSS,
GEO. WILSON.

Recorded April 30, 1883.

EDELL, J. B. B.

(Endorsed:) Opened and refiled Nov. 20, 1890. L. S. B. Sawyer, Clerk.

75 *Complainant's Exhibit C.*

U. S. Circuit Court, N. Dist. of Cal.

| | | |
|---------------------------|---|-------------|
| THE JOHNSON Co. | } | No. 10,393. |
| vs. | | |
| PACIFIC ROLLING MILLS Co. | | |

Complainant's Exhibit C. (Articles of Incorporation of Johnson Steel Street Rail Co.)

S. C. H., *Examiner.*

Articles of Incorporation of the Johnson Steel Street Rail Company:

Know all men, that we, Tom L. Johnson, A. J. Moxham, J. V. Johnston, and E. C. Moxham, do hereby associate ourselves together and become incorporated under the name of the "Johnson Steel Street Rail Company" under the provisions of Chapter Fifty-six of the General Statutes, claiming the general powers granted under said chapter, to wit: To have perpetual succession; to sue and be sued by the corporate name; to have a common seal; and alter the same at pleasure; to render the shares or interests of stockholders transferable, and to prescribe the mode of making such transfer; to exempt the private property of members from liability for corporate debts; to make contracts, acquire and transfer property, possessing the same power in such respects as private individuals now enjoy; to establish by-laws, and make all rules and regulations deemed expedient for the management of said corporation or its affairs not inconsistent with the constitution or laws of this State or of the United States.

It is further specially understood and prescribed:

1. That the principal place of business of said corporation shall be Louisville, Ky.

2. That the business of said corporation shall be to develop the use and sale of the rail patented and known as the "Johnston Street Railroad Rail," to grant license to other persons to manufacture said rail under the patents relating thereto, which are now or may hereafter be owned by said corporation to manufacture and sell said rail; to procure the manufacture of said rail by other persons; and to manufacture and sell and deal in all materials used in laying street railroad rails; said corporation to pursue any or all the above mentioned objects of business as it may hereafter determine.

76

3. That the capital stock of said corporation shall be twenty-five thousand dollars, to be divided into two hundred and fifty shares of one hundred dollars each, of which twenty-one thousand dollars shall be paid in money or property on or before the 14th day of March, 1883, the property to be transferred to said corporation in payment of the stock thereof, to be accepted at the valuation of its directors; and the remaining four thousand dollars of said capital stock to be paid when the necessities of said corporation shall require, at such times and in such manner as the Board of Directors shall prescribe by resolution or by-laws.

The capital stock may be increased from time to time by change of these articles in accordance with Chapter Fifty-six, but no increase shall at any time be made except upon a vote favoring such increase of a majority of the stock then issued and paid up, nor unless the same be taken at par and paid for in cash, or its *bona fide* equivalent. In the event the capital stock shall be increased at any time the then stockholders shall have the right to subscribe, pay for and take the additional issue of stock in the same proposition as they may hold paid up stock at the time of such increase. In no event shall any stockholder be compelled to subscribe and pay for any stock directed to be issued as increased capital stock by the persons or person holding a majority of the stock.

If at any time when an increase of capital stock shall have been agreed on as prescribed herein, one or more of the stockholders shall decline to subscribe for any portion of the issue
77 of increased stock, the remaining stockholder, if there be but one, shall have the right to take the whole of the increased issue, or if there be more than one, the remaining stockholders shall have the right to take the increased issue in the proportion which their holdings of paid up stock bears one to the other.

4. The time of the commencement of said corporation shall be the seventh day of March, 1883, and the time of its termination shall be at the expiration of the twenty-five years next thereafter ensuing.

5. The affairs of said corporation shall be conducted by a Board of two Directors, one of whom shall be President, and one Secretary, as may be determined upon between them; to be elected on the second Monday in March, 1883, and annually thereafter. A unanimous vote shall be necessary for the decision of all questions acted upon by said Directors. A. J. Moxham and Tom L. Johnson shall constitute the first Board of Directors, and shall serve until their successors elected.

6. Said corporation shall at no time subject itself to greater indebtedness or liability than five thousand dollars.

7. The private property of the stockholders shall not be liable to the debts of the corporation.

Witness our hands this 23rd day of February, 1883.

J. V. JOHNSTON,
EDGAR C. MOXHAM,
A. J. MOXHAM,
TOM L. JOHNSON.

78 STATE OF PENNSYLVANIA, }
County of Cambria. }

This is to certify that on this day personally appeared before me, a Notary Public, in and for the county and State aforesaid, the above named A. J. Moxham, who signed the foregoing Articles of Incorporation in my presence and acknowledged the same to be his act and deed.

In testimony whereof I have hereunto set my hand and affixed my official seal at Johnstown in the county and State aforesaid the 5th day of March, 1883.

[SEAL.] A. MONTGOMERY,
Notary Public in and for Cambria County,
State of Pennsylvania.

STATE OF OHIO, }
Cuyahoga County. }

Before me, L. A. Russell, a Notary Public, in and for said county and State, personally appeared Tom L. Johnston, this 2d day of March, A. D. 1883, and signed the foregoing Articles of Association and acknowledged the same to be his voluntary act and deed for the purposes in said articles expressed.

In testimony whereof I have hereunto set my hand and affixed my notarial seal at Cleveland, Ohio, this second day of March, A. D. 1883.

[SEAL.] L. A. RUSSELL,
Notary Public in and for Cuyahoga County, Ohio.

79 I, Geo. H. Webb, Clerk of the County Court of Jefferson County, in the State of Kentucky, do certify that on this day the foregoing Articles of Incorporation were produced to me in my office and acknowledged and delivered by J. V. Johnston and Edgar C. Moxham parties thereto to be their act and deed, and that I have recorded them, this and the foregoing certificates in my said office.

Witness my hand this 7th day of March, 1883.

GEO. H. WEBB, Clk.

(The above Articles are recorded in Book No. 2, page 621.)

Amendment to the Articles of Incorporation of the Johnson Steel Street Rail Company.

We, A. J. Moxham, J. V. Johnston, E. C. Moxham and Tom L. Johnson, incorporators and only stockholders of the Johnson Steel Street Rail Company, do hereby agree that the stock of said company shall be increased from twenty-five thousand dollars to forty thousand dollars, that is to say, an increase of one hundred and fifty shares of one hundred dollars each, and one-third of said stock to be paid for in cash and issued at once, and the remainder to be paid for and issued as and when called for by the Board of Directors of said company; and that the stock shall be subscribed for and issued as provided in Section 3 of the charter of said Johnson Steel Street Rail Company.

Witness our hands this fifth day of January, 1884.

TOM L. JOHNSON,
A. J. MOXHAM,
EDGAR C. MOXHAM,
J. V. JOHNSON.

80 STATE OF OHIO, }
County of Cuyahoga, } ss.

I, L. A. Russell, a Notary Public in and for the county and State aforesaid, do certify that on this day came the above named Tom L. Johnson, who is personally known to me, and signed the foregoing amendment to the Articles of Incorporation of the Johnson Steel Street Rail Company, in my presence, and acknowledged the same to be his free act and deed.

In testimony whereof, I hereunto set my hand and affix my official seal this fifth day of January A. D. 1884.

[SEAL.]

L. A. RUSSELL,
Notary Public.

STATE OF PENNSYLVANIA, }
County of Cambria, } ss.

I, A. Montgomery, a Notary Public, in and for the county and State aforesaid, do certify that on this day came the above named A. J. Moxham, who is personally known to me, and signed the foregoing amendment to the Articles of Incorporation of the Johnson Steel Street Rail Company in my presence, and acknowledged the same to be his free act and deed.

In testimony whereof, I hereunto set my hand and affix my official seal this twenty-third day of January, A. D. 1884.

[SEAL.]

A. MONTGOMERY,
Notary Public.

STATE OF KENTUCKY, }
 County of Jefferson, } *Set.*

I, R. S. Shreve, at Notary Public in and for the county and State aforesaid, do certify that on this day came the
 81 above named Edgar C. Moxham, who is personally known to me, and signed the foregoing amendment to the Articles of Incorporation of the Johnson Steel Street Rail Company, in my presence, and acknowledged the same to be his free act and deed.

In testimony whereof, I hereunto set my hand and affix my official seal this twenty-fifth day of January, A. D. 1884.

[SEAL.]

R. S. SHREVE,
Notary Public, J. Co., Ky.

STATE OF KENTUCKY, }
 Jefferson County, } *Set.*

I, Geo. H. Webb, Clerk of the County Court wherein and for the county and State aforesaid, do certify that on this day the foregoing amendment to the Articles of Incorporation of the Johnson Steel Street Rail Company were produced to me in my office and acknowledged and delivered by Edgar C. Moxham, a party thereto, to be his act and deed, all of which is hereby certified to the proper office for record.

Witness my hand and official seal of Jefferson County Court, this 31st day of January, 1884.

[^{Official}
 Seal.]

GEO. H. WEBB,
Clk. Jeff. Co. Ct., Ky.

I, Geo. H. Webb, Clerk of the County Court of Jackson County, in the State of Kentucky, do certify that on this day the foregoing amendment to the Articles of Incorporation of the Johnson Steel Street Rail Company were further and fully acknowledged and delivered before me, in my office, by J. V. Johnston, a party thereto, to be his act and deed, and
 82 that I have recorded it, this and the foregoing certificates in my said office.

Witness my hand this 8th day of February, 1884.

GEO. H. WEBB, Clk.

(The above amendment to the Articles of Incorporation of the Johnson Steel Street Rail Company is recorded in Corporation Book No. 3, page 174.)

Change in the Articles of Incorporation of the Johnson Steel Street Rail Company:

Know all men by these presents, that we, A. J. Moxham, Tom L. Johnson, J. V. Johnston, T. C. Coleman, A. V. du Pont and John Townsend, being all of the stockholders of the

Johnson Steel Street Rail Company, have and do hereby agree upon the following changes in the Articles of Incorporation of the said Company:

1st. The capital stock of said company is increased from forty thousand dollars (\$40,000) to two hundred and fifty thousand dollars (\$250,000), being an increase of twenty-one thousand shares of one hundred dollars each, to be issued at once as paid up capital stock. This increase of stock is based upon the accumulated net earnings of the company, the increased value of the patents and properties of the company and the patent and properties of the company acquired since the last increase of its capital stock.

2d. The highest amount of indebtedness or liability to which said corporation is at any time to subject itself is changed from five thousand dollars (\$5,000) to fifty thousand dollars (\$50,000).

83 Witness our hands this fifth day of November, A. D. 1885.

A. J. MOXHAM,
JOHN TOWNSEND,
J. V. JOHNSTON,
TOM L. JOHNSON,
A. V. DUPONT,
T. C. COLEMAN.

STATE OF PENNSYLVANIA, }
County of Cambria, } ss.

I, A. Montgomery, a Notary Public, in and for the county and State aforesaid, do certify that on this day personally appeared before me the within named John Townsend and A. J. Moxham who are personally known to me and signed the within change in the Articles of Incorporation of the Johnson Steel Street Rail Company and acknowledged the same to be their act and deed.

Witness my hand and seal this second day of December, 1885.

[SEAL.]

A. MONTGOMERY,
Notary Public.

STATE OF IOWA, }
County of Marshall. }

I, W. L. Dickson, a Notary Public, in and for the county and State aforesaid do certify that on this day personally appeared before me the within named J. V. Johnston, who is personally known to me and signed the within change in the Articles of Incorporation of the Johnson Steel Street Rail Company, and acknowledged the same to be his act and deed.

Witness my hand and seal this seventh day of December,
1885.

84

[SEAL.]

W. L. DICKSON,
Notary Public.

I, Geo. H. Webb, Clerk of the County Court of Jefferson County, in the State of Kentucky, do certify that on this day the foregoing amended Articles of Incorporation were produced to me in my office, and acknowledged and delivered by A. V. duPont, T. C. Coleman and Tom L. Johnson, parties thereto, to be their act and deed, and that I have recorded them, this, and the foregoing certificates in my said office.

Witness my hand this 4th day of January, 1886.

GEO. H. WEBB, *Clerk.*

(The above change in the Articles of Incorporation of the Johnson Steel Street Rail Company, is recorded in Corporation Book No. 3, page 596.)

Be it known, that a meeting of the stockholders of the Johnson Steel Street Rail Company was held at the company's office in Louisville, Kentucky, on Monday, December 17th, 1888, pursuant to call, and that all of the stockholders of said company and every share of stock issued by said company at said time were present in person or by proxy; that it was unanimously resolved that the name of said company be changed from Johnson Steel Street Rail Company to Johnson Company, and that A. J. Moxham, President, A. V. duPont and T. C. Coleman be appointed to sign and acknowledge the appropriate Amended Articles of Incorporation in behalf of all said stockholders, in order to effect said change, if none. Therefore these

85 presents witness, that the Articles of Incorporation of the Johnson Steel Street Rail Company are hereby amended in this, that the name of said company is hereby changed from Johnson Steel Street Rail Company to, and it shall hereafter be known as Johnson Company.

In testimony whereof, witness the signatures of A. J. Moxham, President, A. V. duPont and T. C. Coleman, in behalf of themselves and all the stockholders of said company, this 17th day of December, 1888.

ARTHUR J. MOXHAM, *Pres.*
A. V. DUPONT.
T. C. COLEMAN.

STATE OF PENNSYLVANIA, }
County of Cambria, } ss.

On this 19th day of December, 1888, personally came before me, a Notary Public in and for said County, A. J. Moxham, President of the Johnson Steel Street Rail Company, who in

due form of law acknowledged the within writing, and signed it in my presence.

Witness my hand and Notarial Seal at Johnstown, Pa., the day and year above stated.

[SEAL.]

A. MONTGOMERY,
Notary Public.

I, Geo. H. Webb, Clerk of the County Court of Jefferson County, in the State of Kentucky, do certify that on this day the foregoing Amended Articles of Incorporation was produced to me in my office and acknowledged and delivered by
86 T. C. Coleman and A. V. duPont, parties thereto, to be their act and deed.

Witness my hand this 22nd day of December, 1888.

GEO. H. WEBB, *Clerk.*

I, Geo. H. Webb, Clerk of the County Court of Jefferson County, in the State of Kentucky, do certify that on this day the foregoing Amended Articles of Incorporation was again produced to me in my office, and that I have recorded it, this, and the foregoing certificate in my said office.

Witness my hand, this 26 day of Decr., 1888.

GEO. H. WEBB, *Clerk.*

(The above Amended Articles of Incorporation are recorded in Corporation Book No. 5, page 125.)

STATE OF KENTUCKY,
County of Jefferson, } *Sct.*

I, Geo. H. Webb, Clerk of the County Court of Jefferson County, in the State of Kentucky (said Court being a court of record having probate jurisdiction and power to appoint and qualify executors, administrators, guardians, etc., and having a common seal), do certify that the foregoing fifteen pages contain a correct and complete copy of the Articles of Incorporation of the Johnson Steel Street Rail Company and the three amendments thereto, together with the certificates of acknowledgment and record thereof, as taken from the records in my office as Clerk aforesaid.

87 Said original Articles of Incorporation of the Johnson Steel Street Rail Company are recorded in Corporation Book No. 2, page 621; the first amendment thereto in Corporation Book No. 3, page 174; the second amendment thereto in Corporation Book No. 3, page 596; and the third amendment thereto in Corporation Book No. 5, page 125.

In testimony of all which I hereunto set my hand and affix the impression of the seal of Jefferson County, Kentucky, of

which I am the lawful custodian, at Louisville, this 8th day of October, 1889.

[SEAL.]

GEO. H. WEBB, *Clerk*
Jefferson County Court, Kentucky.

STATE OF KENTUCKY, }
Jefferson County, } *Sct.*

I, W. B. Hoke, sole and presiding Judge of the County Court within and for the county and State aforesaid, do certify that Geo. H. Webb, whose genuine signature appears to the foregoing certificate, is now, and was at the time of signing the same, Clerk of said Court, duly elected and qualified, and that all of his official acts as such are entitled to full faith and credit, and that his foregoing attestation is in due form of law.

Given under my hand at the City of Louisville, Kentucky, this 8th day of October, 1889.

(Signed) W. B. HOKE,
Sole and Presiding Judge of the Jefferson Co.
Court, Kentucky.

SS STATE OF KENTUCKY, }
Jefferson County, } *Sct.*

I, Geo. H. Webb, Clerk of the County Court, within and for the county and State aforesaid, do certify that W. B. Hoke, whose genuine signature appears to the foregoing certificate, is now, and was at the time of signing the same, Sole and Presiding Judge of said Court, duly elected, commissioned and qualified, and that all of his official acts as such are entitled to full faith and credit.

In testimony whereof, I hereunto set my hand and affix the official seal of Jefferson County, Kentucky, of which I am the custodian, at Louisville, Kentucky, this 8th day of October, 1889.

[SEAL.]

GEO. H. WEBB, *Clerk.*
Jefferson County Court, Kentucky.

(Endorsed:) Opened and refiled Nov. 20, 1890. L. S. B. Sawyer, Clerk.

89

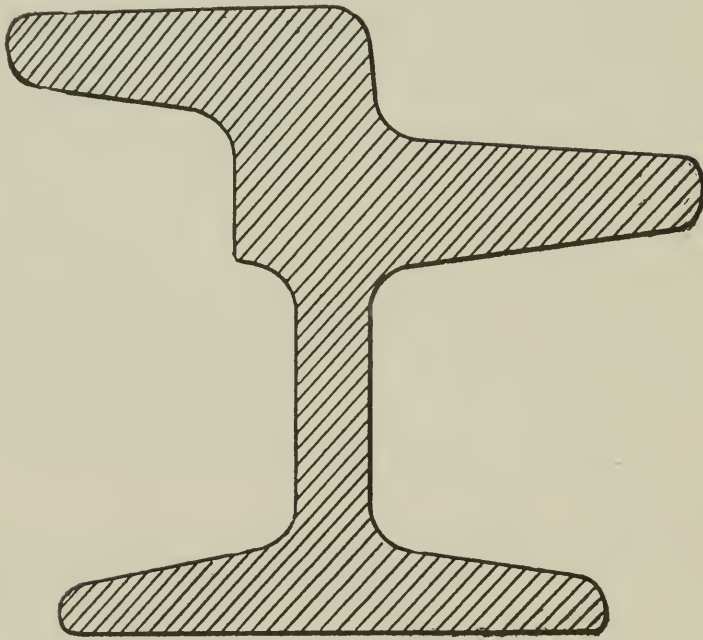
U. S. Circuit Court, N. Dist. of Cal.

THE JOHNSON CO.

vs.

PACIFIC ROLLING MILLS CO. }

No. 10393.

*Complainant's Exhibit E. (Drawing Section of Respondent's Rail.)*S. C. H., *Examiner.*

(Endorsed:) Opened and re-filed Nov. 20, 1890. L. S. B. Sawyer, Clerk.

90

Assignment of Errors.

United States Circuit Court of Appeals, for the Ninth Judicial Circuit.

JOHNSON COMPANY,

vs.

PACIFIC ROLLING MILLS COMPANY. }

No. 10,393.

In the matter of the appeal of the Johnson Company, appellant:

Assignment of Errors: And now comes the appellant in the above cause, and says that in the record and proceedings therein there is manifest error in this, to wit:

1. The Circuit Court of the United States, for the Northern District of California, erred in the construction placed upon the fifth claim of the patent in suit.

2. The Circuit Court of the United States, for the Northern

District of California, erred in failing to find that defendant's (appellee's), rails infringed the fifth claim of the patent in suit.

3. The Circuit Court of the United States, for the Northern District of California, erred in holding that there was no invention over the prior art in the matter claimed in the fifth claim of the patent in suit.

4. The Circuit Court of the United States, for the Northern District of California, erred in dismissing the bill of complaint in said cause.

Wherefore, the said Johnson Company, appellant, prays that the decree of the Circuit Court of the United States, for the Northern District of California, be reversed, and that the Circuit Court of the United States, for the Northern District of California, be ordered to enter a decree sustaining the bill of complaint, finding that defendant's (appellee's), rails infringe the fifth claim of the patent in suit, and awarding an injunction against the defendant (appellee), in accordance with the prayer of the bill of complaint.

WM. F. BOOTH,

Attorney for Johnson Company.

(Endorsed:) Filed Dec. 28, 1891. L. S. B. Sawyer, Clerk.

92 *Petition for Order Allowing Appeal.*

In the Circuit Court of the United States. Ninth Judicial Circuit, in and for the Northern District of California.

| | |
|---|---------------|
| THE JOHNSON COMPANY, Complainant, |) No. 10,393. |
| <i>vs.</i> | |
| PACIFIC ROLLING MILLS COMPANY, Defendant. |) In Equity. |

Petition of Complainant for Order Allowing Appeal.

The Johnson Company, complainant in the above entitled cause, feeling itself aggrieved by the decretal order made by said Court on the 27th day of July, 1891, and the decree made and entered on said day in pursuance of said order, whereby it is ordered, adjudged and decreed that the complainant's bill of complaint in said cause be dismissed with costs to the defendant, comes now by George Harding, George J. Harding and Wm. F. Booth, its solicitors and counsel, and petitions said Court for an order allowing said complainant to prosecute an appeal from said decree, to the Honorable, the United States Circuit Court of Appeals, for the Ninth Circuit, under and according to the laws of the United States in that behalf made and provided, and also that an order be made fixing the amount of security which complainant shall give and furnish upon such

appeal, and that upon giving of such security, all further proceedings in this Court be suspended and stayed until the determination of said appeal by said United States Circuit Court of Appeals.

93 And your petitioner will ever pray.

GEORGE HARDING,
GEORGE J. HARDING,
WM. F. BOOTH.

Sol's and counsel for complainant.

(Endorsed:) Filed Dec. 28, 1891. L. S. B. Sawyer, Clerk.

94 *Order Allowing Appeal.*

At a stated term, to wit: the November term, A. D. 1891, of the Circuit Court of the United States of America, of the Ninth Judicial Circuit, in and for the Northern District of California, held at the court room in the City and County of San Francisco, on Monday, the 28th day of December, in the year of our Lord one thousand eight hundred and ninety-one.

Present: The Honorable Thomas P. Hawley, United States District Judge, District of Nevada.

THE JOHNSON COMPANY,

vs.

PACIFIC ROLLING MILLS COMPANY,

} No. 10,393.

On motion of W. F. Booth, Esq., counsel for complainant herein, it is ordered that an appeal to the United States Circuit Court of Appeals for the Ninth Circuit, from the final decree heretofore filed and entered herein, be and the same hereby is allowed, and that a certified transcript of the record, testimony, exhibits, stipulations and all proceedings herein be forthwith transmitted to the said United States Circuit Court of Appeals.

It is further ordered that the bond for damages and costs on appeal be, and the same hereby is fixed at five hundred dollars.

95 *Bond on Appeal.*

United States Circuit Court of Appeals for the Ninth Circuit.

THE JOHNSON COMPANY, Appellant,

vs.

PACIFIC ROLLING MILLS COMPANY, Appellee,

} No. 10,393.
} In Equity.

Know all men by these presents, that we, Wm. F. Booth and J. B. Whitcomb, both of San Francisco, California, are held and firmly bound unto the above named appellee, in the sum of five hundred dollars, lawful money of the United States of America, to be paid to the said appellee, its successors and legal

representatives, to which payment, well and truly to be made, we bind ourselves and each of us jointly and severally and our and each of our heirs, executors and administrators firmly by these presents. Dated at San Francisco, California, this 29th day of December, 1891.

The condition of the above obligation is such, that whereas said appellant has taken an appeal to the United States Circuit Court of Appeals, for the Ninth Circuit, to reverse the decree rendered and entered by the Circuit Court of the United States, Ninth Judicial Circuit, in and for the Northern District of California, in the cause entitled *The Johnson Company vs. Pacific Rolling Mills Co.*, No. 10,393, which said decree was rendered and entered in said Circuit Court, the 27th day of July, 1891, being a day in the July term, 1891, of said Circuit Court. Now, therefore, if the above named appellant shall prosecute its appeal to effect and answer all damages and costs, if it shall fail to make good its plea, then this obligation shall be void—otherwise to remain in full force and effect.

WM. F. BOOTH,
J. B. WHITCOMB.

Signed sealed and delivered in presence of F. D. Monckton.

UNITED STATES OF AMERICA, }
Northern District of California, } ss.

Wm. F. Booth, being duly sworn, deposes and says that he is a freeholder in said district, and is worth the sum of five hundred dollars in lawful money of the United States of America, exclusive of property exempt from execution and over and above all debts and liabilities.

WM. F. BOOTH.

Subscribed and sworn to before me, at San Francisco, California, this 29th day of December, 1891.

F. D. MONCKTON,
Commissioner U. S. Circuit Court,
Northern District of California.

UNITED STATES OF AMERICA, }
Northern District of California, } ss.

J. B. Whitcomb, being duly sworn, deposes and says that he is a freeholder in said district, and is worth the sum of five hundred dollars in lawful money of the United States of America, exclusive of property exempt from execution and over and above all debts and liabilities.

J. B. WHITCOMB.

going ninety-eight written and printed pages, numbered from 1 to 98, inclusive (excepting therefrom the original exhibits "Complainant's Exhibit Section of Defendant's Rail," and "Section California Street Rail," being sections of steel rails—which said original exhibits are, by order of Court, transmitted herewith and made a part hereof), to be a full, true and correct copy of the record and of all the proceedings in the above and therein entitled suit, and that the same together constitute the transcript of the record upon appeal to the United States Circuit Court of Appeals for the Ninth Circuit.

In testimony whereof, I have hereunto set my hand and affixed the seal of said Court, this 30th day of January, 1892.

[Seal U. S. Circuit Court, Northern Dist. Cal.]

L. S. B. SAWYER,

Clerk U. S. Circuit Court, Northern District of California.

UNITED STATES OF AMERICA, ss.

The President of the United States, to Pacific Rolling Mills Company, greeting:

You are hereby cited and admonished to be and appear at a United States Circuit Court of Appeals, for the Ninth Circuit, to be holden at the City of San Francisco, in the State of California, on the 23rd day of February, next, pursuant to an order allowing an appeal, entered in the Clerk's Office of the Circuit Court of the United States, for the Northern District of California, from a final decree duly signed, filed and entered in that certain suit wherein The Johnson Company is complainant and appellant, being in Equity No. 10,393, and you are respondent and appellee, to show cause, if any there be, why the decree rendered against the said appellant as in the said order allowing appeal mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Thomas P. Hawley, U. S. District Judge, District of Nevada, assigned to hold and holding the United States Circuit Court, for the Northern District of California, this 25th day of January, A. D. 1892.

THOMAS P. HAWLEY,

U. S. Judge.

Service of the within citation and the delivery of a copy thereof acknowledged this 25th day of January, 1892.

WHEATON, KALLOCH & KIERCE,

Sols. for Respondent and Appellee.

Filed Jan. 25, 1892. L. S. B. Sawyer, Clerk U. S. Circuit Court Northern District of California. By W. B. Beazley, Deputy Clerk.

